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ABSTRACT

Papers dealing with topics relating to college and adult reading instruction and discussions of these papers by reading authorities who offer differing viewpoints are presented. Subjects treated include humanistic aspects of reading; materials and methods in use; current and future programs; programs operated by business and industry; illiteracy; evaluation methods; clinical techniques involving readiness, personality factors, motivation, interest, physical factors, and mental characteristics of college students; and a summary and evaluation of pertinent research at the college and adult level. Subject bibliographies are included. (This document previously announced as ED 024 557.) (JB)

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COLLEGE-ADULT READING INSTRUCTION

IRA

Prepared by a Committee
of the
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FOREWORD

There is an urgent need for reading instruction at college-adult levels. Such instruction is urgent for students who enter college with poor reading skills and who must have help or drop out. It is urgent for many people in professional, business and industrial work who find themselves enmeshed in an inescapable web of printed material that must be covered and understood within restricted limits of time. A need that is even more urgent at the moment is that of the illiterates and functional illiterates who in this critical age of transition to automation, find themselves faced with the catastrophe of unemployment. Because of these needs it is timely for the International Reading Association to offer assistance through a publication that deals broadly with several different aspects of college-adult reading instruction.

In preparing this book, outstanding authorities were invited to write papers dealing with pertinent topics and to present these papers at a conference. Other outstanding specialists were asked to discuss the presentation of the papers in order that different viewpoints might be expressed. The papers and the discussions were then published in this book.

The subjects treated are varied and broad. Humanistic aspects of reading is a topic of serious consequence. Different types of college reading programs is a matter about which we should be informed. Methods and materials are practical considerations which are *musts*. Which individuals can profit from college-adult programs is a question that needs to be answered. The future of such programs is an interesting subject to contemplate. All of these topics are treated in the first five chapters of this book.

The next two chapters deal with two specialized classes of individuals—those in business and industry, and illiterates. Special programs for people falling within these two categories are discussed in Chapters 6 and 7.

Regardless of the age level, educational or vocational status of individuals being taught instructors must be familiar with the best tests and procedures available for evaluating reading achievement. Similarly, it is of importance that they become thoroughly familiar with significant research in this particular area. These two essential subjects are discussed in Chapters 8 and 9.

Finally, many of the people at higher age-levels who need reading instruction have been thwarted in their life's goals for many years. They need reading skill as a means of helping them to achieve personal dignity and self-realization. Often they also need more than a reading test and reading instruction *per se*. Hence the reading clinic becomes a necessity. Chapter 10 in this book provides an enlightening discussion on clinical work.

Grateful acknowledgment is given to Dr. Robert Karlin who skillfully implemented the project leading up to this publication, to Dr. Ralph C. Staiger for his innumerable contributions, to Dr. James I. Brown for his management of the Conference, to Dr. Paul D. Leedy for his excellent editorial work. Profound thanks are extended to the authors of the chapters for their excellent presentations and to the discussants for their challenging discussions.

Nila Banton Smith
President, International
Reading Association
1963-64

Ralph C. Staiger

University of Delaware

1. Humanistic Aspects of College and Adult Reading

PERHAPS it would be proper to open a discussion of the humanistic aspects of college and adult reading in the Socratic tradition with some questions. What do we mean by humanistic? What is the state of reading instruction in various areas of the college-adult population we are discussing? What is the status of readership in this population? What are the functions of reading instruction in the college-adult field? How can instruction in reading encourage the student's development in the broadest sense?

Humanism has had many definitions. During the Renaissance, it stood for the opposition to medieval authoritative scholasticism which encouraged the independent study of classical literature, language, and civilization. More recently, literary humanism has been the name of a movement which affirms a classical type of liberal education, the constant exercise of the active will, the balanced cultivation of the faculties, and a final appeal to intuition in the search for truth. The leaders of this movement have been Irving Babbitt, Paul Elmer More, and Norman Foerster. Rational humanism, as exemplified by R. M. Hutchins, stresses the cultivation of latent rational faculties through an education ordered by first principles rather than by factors of society. It is the guiding philosophy of the Great Books movement.

Scientific humanism, on the other hand, interprets man as a biosocial organism, capable, through the use of intelligence, of directing his intelligence and creating a humane civilization. It stresses the universal applicability of the experimental method in human inquiry, and holds that the eternal verities are human values to be judged by reference to consequences humanly experienced. Most of us in reading, I believe, tend to subscribe to scientific humanism. Our colleagues in other fields may have other beliefs, which often leads to misunderstandings which are difficult to resolve, for they are based on differences of a basic philosophical nature. It is in the light of scientific humanism, however, that reading instruction is discussed in this paper.

Status of Reading

The status of college-adult reading instruction is not easy to describe. Formal course work has been offered in institutions of higher learning under the auspices of many departments: psychology, English, education, educational psychology and personnel services. In each of these, different approaches or combinations of approaches have been used so that no one college reading program can be considered universal. We will doubtless hear more about this in the next paper. It is dangerous to generalize about differences, but in general, when the course is offered by the English department, the instruction tends in the direction of interpretation, vocabulary, interpretation of meaning, appreciation of style, and understanding of symbolism. The psychologist is usually more interested in procedures and measurement of results or a systematic approach to retention, while the personnel counselor seeks to help solve students' personal and study problems. Shaw has summarized the organizational status of college reading courses in this fashion:

"No conclusive study has yet been published concerning the number and advantages of each of the three basic kinds of organization of college reading-improvement programs: (a) a separate, special service; (b) a part of a language-arts course; (c) an intrinsic part of each subject. At present, organization of reading courses as a special service seems to be the most common." (12, p. 340)

He has classified them further as having three basic orientations: (a) mechanical-aid oriented, (b) textbook oriented, and (c) counselling oriented. Each of these can be discerned in courses taught under the aegis of different departments.

In industry and government, the pragmatic approach of improving efficiency on the job has usually been stressed. Getting the work out faster has been the primary purpose of the reading program. Extracurricular reading is occasionally encouraged, however. Commercial reading courses have stressed speed of reading, because of its appeal to potential students. They do, of course, include instruction in other skills and abilities among their offerings. Some few recommend and urge their enrollees to read more widely on their own time, and offer lending libraries and reading lists.

The Great Books Discussion Courses, offered in many communities, assume a high level of reading ability as a prerequisite to enrollment. Nevertheless, improvement of reading ability is inherent in the course, although it is preferred that the enrollee be a good reader before he starts. Adler says, "The reader can be made more competent, through guidance and practice. To the extent that this happens, he is not only able to read the great books, but as a consequence, comes nearer and nearer to understanding the subject matter as the masters have understood it. Such mastery is the ideal of education. It is the obligation of secondary teachers to facilitate the approach to this ideal." (1, p. 63)

The adult or industrial program usually is concerned with results—immediate, measurable results which save time, effort and therefore money for an individual or corporation. It is rare that adult courses take into consideration that the end result of learning is the changes it makes in a person. Only the Great Books program, in its search for first principles, appears to be concerned with the individual's growth through reading.

Occasionally, a large corporation organizes a "book club" among its executive staff which distributes recent books as a sort of required reading assignment. It is possible that employees who have read little have been led to a fuller life through the encouragement to read. Some enlightened companies have gone farther, and have sponsored discussion groups which have as their function the intellectual growth of employees.

A realistic summary of college-adult reading programs would indicate that most are concerned with improving the efficiency of the reader in his approach to the written word; a few encourage growth in reading interests, and only the Great Books programs make their primary purpose the individual's growth through reading.

Readership is a difficult area to study, for the answers to the questions of who reads, what, how much, and how well are not easily arrived at. There appears to be a relationship between amount of education, social class, and amount of reading. Gray and Rogers suggest that "Education, of itself, is not seen as bearing a direct, simple, causal relationship to the reading pattern (of adults) but rather as a clue to social role, which is more clearly the determiner of the reading pattern." (8, p. 46)

College students' reading habits might be considered a preview of the best in adult reading. If so, a disappointing future is depicted. Dean Asheim's summary of research in this area is an important one which does not bear recapitulation here. A few important points can be mentioned, however. 1. Students with the best scholastic rating usually do more "free" reading. 2. Most college students' reading is course-related. 3. Most instructors expect more reading than they get. 4. It is seldom that much reading occurs on the initiative of the student unless the instructor has provided the motivation. (2)

Studies of adult reading in the United States have revealed similar discouraging information about adult reading habits and interests. A shocking aspect of the Gray and Rogers study was their inability to find a single person in the "Trader City" group of department store employees who could be considered a mature reader by their criteria. They found that although reading competence appears to be closely related to educational background, "the mere possession of skills involved in efficient reading does not insure that they will be used in adult life. Some compelling motives for their use must arise out of the problems and projects which are recognized by the individual as genuinely important." (8, p. 172)

The concept of "mature reading" is an important one, for it is necessary to consider adult reading as more than a unitary phenomenon. Although newspapers were read for an average of 51 minutes by television-owning college graduates (5), we cannot by these data determine the type of newspaper, the parts of the newspapers read, or the grasp of meanings of the articles read from this bare statistic. It is hoped that the concept of mature readers will be refined by future investigators.

Particularly disturbing are comparisons of the reading habits of individuals in other countries and in ours. Although the limitations of statistics suggested in the last paragraph must be considered, it is depressing to know that when asked in an opinion survey, "Do you happen to be reading a book at the present time?," only 17% of a random cross section of adults could answer in the affirmative, while 55% of the adults in England, 34% in West Germany, 33% in Australia and 31% in Canada could do so in similar polls. (2) If the reading of books is an indicator of a nation's intellectual level, the United States culture is in a remarkably weak position, notwithstanding its economic strength and educational opportunities. The mere possession of the ability to purchase books and the skills involved in efficient reading does not insure that they will be used, if I may paraphrase one of Gray and Rogers' conclusions.

The function of reading instructors at the college level, we have seen, is not stable, but is to a certain extent dependent upon the instructor's departmental affiliation and background. In general, the reading course is not considered completely respectable, for the aura of "remedial reading" hangs about it in the half-understanding minds of most faculty members. What should it be? The teaching of skills alone is not enough, and other activities cannot stand alone. Showing films depicting good reading practices may help those who want to improve, for instance, but does not succeed without supplementary activities. Although eye-movement training apparently has some motivational value, it is not the whole course. Introducing the idea of reading for different purposes at different rate is useful, for those persons who are hamstrung by excessively slow reading. Practice in reading many different types of materials, with the expectancy of being tested for comprehension is a useful goal. Scheduling time is a help to all of us who are expected to work independently of strict supervision. Systematizing study-type by the use of SQ3R or a similar technique has helped many floundering students. But none of these means suffices by itself.

The end result of reading instruction at the college level, the writer believes, should be the acquisition of attitudes toward reading. Class practices should lead the student to use the most effective techniques for communicating with the author and retaining what is worth keeping of his message. He must do this of his own volition. The skills which we have him practice, the techniques we show him for interpreting ideas in print come to naught if he does not have a compelling motive for using them.

Motivation Is Vital

Can we give him the motive in a reading course? Can we get him to recognize that some problems and projects which he encounters are genuinely important to him? Can we encourage an attitude of curiosity about the world, in addition to the techniques for dealing with print? Can we, while handing him the reading tools which he has not learned to use, help open his horizons, stimulate his interest in those things which make a man fully human? Certainly not with all students, for they have the privelege of choosing their own interests. The instructor has a responsibility, however, to try to influence his students to grow intellectually, even if he cannot succeed in the way he wishes with all who register for his classes.

The teaching of reading is related to the experience of the teacher, just as the interpretation of what is read is a function of the experience of the reader. He has a responsibility to impart to his students, whenever possible the excitement of discovery, the wonder of learning, and the challenge of intellectual endeavor. The writer hopes that this enthusiasm will not be construed as sentimentality for the glories of education, although this type of teaching has probably inspired some persons in the past. Gifted teachers have quietly and dramatically used many different ways to impart their own attitudes toward life and learning to their students. Peterson's volume on great teachers is an interesting depiction of how they appeared to their students. (11)

The adults whose purpose is to increase their on-the-job reading efficiency, as well as the college students who want to know how to get their required work done in minimum time should be helped in achieving these secondary goals. The teacher's primary objective should be, however, to encourage these persons to stretch their goals by developing attitudes which help them realize that life can be more than fulfilling minimum requirements.

Developing Attitudes

Developing attitudes toward reading which, as has been suggested is a real purpose of college and adult reading instruction, is not accomplished solely by listening to lectures, by filling in blanks in exercise books, or by using visual or mechanical aids. These have their function in the process, but by themselves they do not develop attitudes which result in growth of the student as a complete human being.

It appears to the writer that these attitudes are developed through the interaction of three factors which the teacher can use: suggestion, facts about reading, and proof that the student is changing. Let us take the first, suggestion. This has a powerful influence on the student's progress. Suggestion can come from the instructor through his remarks to the entire group or through more informal individual interaction. Not all suggestion comes from the instructor. It may be the result of bull-session discussions, recommendations from former students, counsel from a dean, advisor, or a coach. In the case of out-of-school adults, the suggestion may come from observation that good readers have better jobs, or from the International Pap Company advertisements which plead, "Give me a man who reads." Many adults have feelings of insecurity about their reading rate, comprehension, and retention. The means by which they hear about a reading course usually is accompanied by a suggestion that they will profit from it. The instructor should capitalize on any spade work which has been done in his behalf when he meets the group for the first time. And he should continue to suggest that the time being spent in the course is profitable.

It is during this process that some students can have their horizons pushed back. In this type of situation, the writer has often suggested that members of previous classes have doubled their speed and improved their comprehension. This comparison with the student's peers is useful. But he can also be compared with others by being introduced to their statements about reading. Perhaps he can develop positive attitudes toward reading by hearing what the editor of the *Atlantic,* Edward Weeks, said about his early reading:

> As I look back across the vista of twenty-five years, back to my early and oh, so peaceful days on the *Atlantic,* these are the things that stand out in the primer of my experience. As the First Reader, I had to read up to my capacity of unsolicited manuscripts every day, and I had to stretch that capacity month by month. As a student and in the Army I had been a very slow, meticulous reader, seldom doing better than forty pages an hour; now I found that by narrowing my gaze and reading down the center of the page, I could get the sense and, where style was involved, even the flavor of the prose. At the end of six months I had increased my rate of reading to the point where I was consuming sixty-five envelopes of manuscripts a week.

Perhaps Thoreau has overstated the case for high level reading, but his comparison of "training such as the athletes underwent" can evoke sympathetic responses from some students:

> To read well, that is to read true books in a true spirit, is a noble exercise, and one that will task the reader more than any exercise which the customs of the day esteem. It requires a training such as the athletes underwent, the steady intention almost of the whole life to this object. Books must be read as deliberately and as reservedly as they were written.

If the need for varying the rate of reading is under discussion, Mark Van Doren's comments might be useful:

> The art of reading is among other things the art of adopting the pace the author has set. Some books are fast and some are slow, but no book can be understood if it is taken at the wrong speed.

Mr. Van Doren's contributions both prose and poetry can be mentioned, in the hope that someone might investigate further. Especially after his statement about reading poetry as a conspiracy has been brought to their attention:

> Poetry is seldom read with the attention it requires. It requires a concentrated mind, a generous imagination, and a listening ear. . . . He (the poet) also has a concentrated mind, a generous mind, and a listening ear. A poem only exists when its writer and its reader meet inside of it and conspire to ignore everything save what it says.

If groans are heard when history is mentioned, perhaps a quotation from Lewis Mumford will have some influence:

> The future of our civilization depends upon our ability to select and control our heritage from the past, to alter our present attitudes and habits, and to project fresh forms into which our energies may be freely poured.

Those of us who have worked with retarded readers know how important it is for the child who has always been the reading "dunce" to realize that he is not alone, and that others have had similar difficulties. It is also good for those adults who feel insecurity in reading to know that successful men have had the same insecure feelings.

Facts Are Important

The instructor must go beyond suggestion, however. The facts of reading have an important place in his instruction. What we know about eye-movements needs to be shared. How early reading is learned—for most have forgotten their early school days except for a few details—is usually of interest to the students. The different kinds of reading which we recognize and teach, but which are often unknown to the student, should be shared with him. The slow reader needs to know that skimming is not cheating but a respectable reading skill. Mechanical aids are useful in proving that he can recognize words in a fraction of a second, or that he can read faster than he thought possible.

While the student is learning what reading is, he needs to know that it is an active, not a passive task. The business-oriented student will appreciate this description, by Kerfoot: "Reading is a co-partnership. What we receive from it is in the nature of dividends on a joint investment."

Virginia Woolf's advice is:

> Do not dictate to your author; try to become him. Be his fellow-worker and accomplice. If you hang back and reserve and criticise at first, you are preventing yourself from getting the fullest possible value from what you read. But if you open your mind as widely as possible, these signs and hints of almost imperceptible fineness from the twist and turn of the first sentences will bring you into the presence of a human being unlike any other.

John Milton's advice, in *Paradise Regained,* is:

> "Who reads
> Incessantly, and to his reading brings not
> A spirit and judgment equal or superior,
> Uncertain and unsettled still remains,
> Deep versed in books, and shallow in himself."

" . . . and with all thy getting, get understanding," say the Proverbs about wisdom. Equally appropriate are these words to reading. The "why" of reading is just as important as the "how." Thoreau in *Walden* scathes the reading which most men do:

> Most men have learned to read to serve a paltry convenience, as they have learned to cipher in order to keep accounts and not be cheated in trade; but of reading as a noble intellectual exercise they know little or nothing; yet this only is reading in a high sense, not that which lulls us as a luxury and suffers the noble faculties to sleep the while, but what we have to stand on tip-toes to read and devote our most alert and wakeful hours to.

About the romances which were popular in his day, and still have an audience, he says:

> All this they read with saucer eyes, and erect and primitive curiosity, and with unwearied gizzard. . . . The result is dullness of sight, stagnation of the vital circulations, and a general deliquium and sloughing off of all the intellectual faculties.

The negative motivation of these quotations may be poor practice; it is useful, however, to describe the waste of the reading talent which goes on. And does it not aptly depict the effects of television on many moderns?

The "why" of reading can also be approached from a sociological point of view. Long before Gray and Rogers attempted to describe the mature reader, Lazarsfield (9) classified readers into three groups which Strang (13) used in her study of reading patterns of adults. It is usually illuminating for an adult to try to fit himself into one of these classes:

I. First-class reader. Interested in all kinds of reading with emphasis on the better fiction. He is also a reader of the heavier portions of both the information and the miscellaneous groups.

II. Second-class reader
   A. Information only. Such a person is distinguished from the first-class reader by a complete lack of interest in books of fiction.
   B. Fiction and information. A person who reads both fiction and information, but material of a lighter nature than the first-class reader.
   C. Fiction only. A person characterized by a complete avoidance of books of the informational type.

III. Third-class reader. This reader is preeminently a reader of still lighter fiction. In most cases he will prefer the "low" type of fiction and avoid anything heavy. He may occasionally read something from the informational category, but on the whole he reads lighter matter, such as travel and adventure.

Aids to Better Reading

As has been suggested, there is a limit to the amount of influence a reading instructor can have on "humanizing" his students without outside assistance. The availability of books is an important factor. Good paperbacks can be sold in most college bookstores with surprising rapidity, and are also available through many other outlets. The writer recalls with warm feelings his college library "Browsing Room" where books could be read in comfortable chairs and inviting surroundings. To a degree, Carlyle's timeworn statement, "The true university of these days is a collection of books" can be made a reality in a browsing room.

The advent of paperbacks has made the acquisition of a personal library relatively inexpensive. With the help of Leuders' (10) or Fadiman's (7) reading lists, the exploration of bookstalls or browsing rooms can be something more than aimless sampling. The fallacy of thinking of books only as hardbounds is highlighted in Best's recent article (4) which suggests that the paperback revolution is more than a mere substitution of soft for hard cover, but rather part of a revolution in the publishing industry.

Some universities have sponsored school-wide "Book-of-the-Semester" programs, during which a single book is discussed by on-and off-campus speakers, promoted by a "saturation" campaign so that everyone is familiar with it, and presumably reads it. The encouragement of book-buying by the uninitiated is accomplished through this means, and the by-products are of course more important than the primary result. An atmosphere is created in which a book is important to many persons who have never particularly been concerned about books before.

The college "press" is a complex and subtle phenomenon. It has a great influence upon the reading of books and the intellectual development of undergraduates. If the reading instructor can influence it so that the "press" is toward humanistic goals, he should do so. Also, when he treats study as a game in which the sole purpose is for the student to outwit the professor in examinations, he is defeating the purpose of enlarging the vision of his students. The need to study for tests is important, but learning, after all, is more than the passing of examinations—or it should be!

Proof that the student is improving in his ability to cope with the written word is usually obtained by his practising on materials designed to develop one or more skills. The results of tests of various kinds are compared to show the student that he is improving. Graphs are often used to depict this improvement in a concrete fashion. There is little doubt that motivation is often an important result of this "proof." If the measures used have validity and reliability, they can be interpreted with confidence, and used for the scientific study of the reading process. This in itself is important.

When tests require more than rote memory on the part of the student, requiring in addition interpretation of ideas they are serving a two-fold purpose. Practice materials or texts should, therefore, include questions which require the drawing of inferences and other higher level comprehension skills. Most freshman English reading and writing texts have done this for some time. Center has used examples of writing which will stretch the reader's imagination in her *The Art of Book Reading.* (6)

If scientific measurement is to be a by-product of testing, then the wonderful essay examination given by "Buck" Weaver and described by Krutch will not stand the tests of validity and reliability. It certainly stands the test, however, of forcing a man to assay himself.

> The late Professor Raymond Weaver laid the first stone of his fabulous reputation among the students of Columbia College on the occasion of the first quiz he gave to his very first class after the First World War, when the sophomores were more than usually sophomoric. When the first question went up on the blackboard it was, "Which of the books read so far has interested you least?" and a whistle of joy went up from a group which had been trying to make things hard for a new instructor. After a dramatic pause Weaver wrote the second and last question. It was: "To what defect in yourself do you attribute this lack of interest?"

To summarize, in the aspect of suggestion which is a part of every adult reading program, in teaching the facts of reading, and in proving that improvement is taking place, there are many opportunities to help make students not only better readers, but also better human beings.

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DISCUSSION[1]

Dr. Albert Harris opened the discussion by voicing agreement with Dr. Staiger on the importance of helping the reader to develop as a person as well as in his reading skills. Dr. Harris continued by raising two questions: (1) Are present day teachers sufficiently immersed in worthwhile reading material so that they can serve as effective models after whom the young student may pattern his own reading habits? Then he went on:

Now, the second question I raise is, (2) Does our large-scale reliance on textbooks and relatively limited use of first sources inhibit the development of the kind of reading interest that we would like college graduates to have when they leave the educational process?

Dr. Arthur McDonald continued the discussion with the following statement: The presentation exemplified what Quintilian meant when he said the learned man will be able to use reading and speaking to summarize the state of knowledge and to challenge his audience to further learning. I think it was very apropos to begin with a discussion of Socrates and the general philosophic atmosphere of the Greeks, because they did not differentiate between art and science. The Latin word, *scientia*, means knowledge; and the speaker has suggested that what we are after is fourfold: four factors which the classicist saw as true excellence. The tension which exists among the interrelationships of the idea, the form that is used, the material—in this case, the student—and the master, or the teacher indicates the interdependent contention of the factors with each other, yet with a single purpose in view.

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[1] The discussion was tape recorded and has been edited as a running commentary. Each discussant will be identified at the opening of his series of comments. Quotation marks will not be employed, the aim being to make the discussion sections as readable and interesting as possible, while at the same time following exactly the thought as expressed by each discussant. In most instances the precise words of the discussant have also been used.

DR. MIRIAM SCHLEICH contributed to the discussion by saying: The presentation reminded me of Sir Richard Livingstone's very fine address on the essentials of education in which he points out that the purpose of education is for us to know and to pursue that which is first rate, not only in vocational pursuits but in the creativity of the human intellect. And Livingstone suggests that the best way to do this is to make the acquaintance of those who have known and experienced it.

Perhaps as teachers of reading, therefore, we have a two-fold job. Not all of us are going to be artists, but perhaps we can be fine artisans. As such we can exemplify the best. Secondly, we may help our students to make the acquaintance of the finest of that which has been written and taught.

DR. JAMES I. BROWN, Co-Chairman of the Conference, added that thus, in a very real sense we have a circular response, as was pointed out in the address, that is working for us. When the student makes some progress, he is motivated to work a little harder and to make more progress. We hear so much about vicious circles these days; it is good to have an *un*vicious one.

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2. Diversity in College Reading Programs

TO most inexperienced, beginning teachers of college reading-improvement programs and to students entering a training course for prospective teachers of college reading, the entire solution to the problem of giving college students intensive instruction in reading seems very simple—just supply the means of speeding up class members' reading, and the task is well and truly accomplished. Similarly, to most inexperienced but interested laymen, the only important criterion of a reading improvement program, whether it be in secondary school, college, or adult educational program, is the opportunity it provides for the student to increase his speed considerably.

But it is to the neophyte teacher and the graduate student interested in methods, procedures, programs, and results to whom this paper is primarily addressed. For specialists in the field of reading-improvement are well aware—or should most assuredly be, that the years forthcoming demand tremendous increases in numbers of thoroughly qualified, confident, and competent teachers; and, likewise, that research and critical analysis of currently approved practices and teaching materials are mandatory for the future well-being of the profession of teaching reading.

As it happens, most fortunately the situation as regards collegiate and university reading programs is not at all so simple and plain as the untrained person assumes. Quite the opposite is true, indeed, for merely a cursory examination of the published reports on college reading programs in just one of several professional periodicals reveals a remarkable degree of diversity in these courses of study. In fact, the more one reads about and inquires into the details of reading instruction at various institutions, the more one realizes that diversity and complexity chiefly characterize the programs being offered in the mid-1960's in American universities and colleges. This diversity is reflected not only in the means employed to bring about certain goals, but in the very aims and acknowledged purposes themselves.

As Arthur S. McDonald and James A. Byrne note, (7) the objectives of collegiate reading programs have usually been determined "in the form of large, general statements." These goals range from the simple desire to "increase students' reading competence in harmony with individual capacity and needs" or the aim of developing more "effective readers who can use their reading to become more mature," to much more inclusive and detailed statements. Some reading programs attempt to fulfill the objectives of bringing about students' "competence in judging the relevance, worth, and soundness of the author's reasoning; judging the effectiveness of his presentation; applying ideas gained from reading to the solution of problems; integrating ideas from reading with previous experience to attain new insights, clearer understanding, and rational attitudes." A few college programs seek even to help students to learn to "work up to their capacities and effect a good social adjustment in college and all their lives."

But though there may be some agreement in generalities concerning students' reading skills and development of maturity on reading, there is wide diversity in *"unexpressed* goals and objectives." McDonald and Byrne find three types of college reading programs, namely,

1. Programs which depend mainly on mechanical devices
2. Skills-drills programs
3. Programs which seek to identify and change behavior patterns which are responsible for poor reading

Moreover, variants occur among these categories, in which, for example, mechanical devices are used mainly in the skills-drills programs. Hence, it is readily apparent that all these circumstances and conditions, as well as others, reflect the far-reaching diversity of ends sought in offering courses to college students for the improvement of their individual reading skills.

Differentiating Factors

In the course of their analysis of objectives, McDonald and Byrne set forth a list of factors which serve them to differentiate the aims of college reading-improvement programs.

Some of these are:

1. The selection procedures used

2. Academic credit or lack of such credit for completion of reading program
3. Size of the group with which the instructor works
4. Length of the program
5. Methods of diagnosis used
6. Methods of evaluation used
7. Competence of the instructor in counseling procedures
8. Academic atmosphere of the institution

In the matter of student population, for example, College A requires all freshmen to take a reading-improvement course. But University B selects for reading training only those who fall below a certain grade on the entrance tests; this grade may refer to vocabulary proficiency, quality of comprehension, speed in covering a given passage or passages—or a combination score which takes all these elements or others into account for the final evaluation. Again, State Colleges C, D, and E require *no* student to take the reading course, but the entire student body is welcome to elect the program at any particular semester during the first, second, or third and fourth year. Metropolitan University F has developed a referral system, whereby students who show marked deficiency in their grades in composition, literature, history, science, or other courses are admitted to special classes where extensive drills are offered in speeding up reading, in improving comprehension, in developing vocabulary, in fostering flexibility of attack upon several different reading problems. And Private University G requires all liberal arts and science majors to take an intensive reading course, but permits registrants in the schools of pharmacy, dentistry, agriculture, home economics, engineering, and medicine to elect the course. Nor do these permutations exhaust the possibilities—many more combinations of circumstances have already been devised or will be adopted to suit individual needs and opportunities at colleges and universities which might be designated form H to Q or even to Y and Z.

As regards the granting of credit, the solution seems to be relatively simple—credit is either given or denied. But the total amount of credit awarded for successful completion of the training varies from one to three hours; the actual number of hours spent in the reading center is usually the determinant for extent of credit. Furthermore, non-credit courses differ in several respects. Some are required, and the students must achieve a satisfactory rating to avoid repeating the training. Other non-credit plans are voluntary and permit the registrant to perform or participate as he wishes without any relationship to his accomplishments or his failure to demonstrate progress.

Unless the reading-improvement techniques used in a college reading program are severely remedial, requiring the utmost of personal attention and individualized treatment, most programs tend to group students in one fashion or another. Members in a given class will run from eight or ten to as many as thirty people. But often within the large group, attempts will be made to cope with individual differences by separating students into units of three to seven or eight for exercises on particular needs, such as comprehension drills, timed reading practice, vocabulary sessions, and the like. For the most part, however, college classes in reading-improvement tend to rely largely upon group instruction. With a variety of activities for the group, many individual needs are met, nonetheless, and for cases of unusual retardation, some colleges and universities provide facilities for referral to clinics and special remedial training.

As to length of programs, the semester would seem to be the customary term, though many institutions offer four, eight, or twelve weeks of intensive study in particular units of work, such as practice for the improvement of comprehension, rate, vocabulary, or flexibility of approach. Moreover, duration of training is often determined by personal progress; for instance, if Student Gray can accomplish certain results as evidenced by tests and quizzes, he may be released from his obligations to attend reading sessions within a very few weeks. But Student Green may spend from sixteen to thirty weeks to secure the same proficiency.

Stated quite bluntly, the size of classes and variations in length of program often depend to a large degree upon the availability of trained, mature specialists in reading. For obviously, a class of thirty students assigned to a semester of training need occupy but one instructor for a fraction of his total teaching load. But the greater the flexibility both as to the extent of training and the variety of adaptation to individual differences, the higher the cost in terms of professional man-hours. To offset this economic burden, some universities are using graduate students for most of the reading training, with continuous and careful supervision by full-time experienced staff-members.

Factors concerned with methods of diagnosis and of evaluation plainly offer many chances for variation in administering reading training. Some colleges set up elaborate procedures and utilize many testing instruments for diagnostic information; others rely upon simple tests merely to show degree of proficiency in speed, comprehension, and accuracy of vocabulary. Between these two extremes lie the practices of the majority of universities and colleges now offering intensive reading instruction. As for evaluation, once again the range is from a simple and forthright use of merely two tests to show beginning and concluding skills, to extensive testing and analysis at various regular or irregular intervals throughout the training period—testing "in depth" is the currently overworked phrase for this sort of determination of results of instruction. In any event, records of diagnostic and evaluative procedures and results are—and must be—kept with the utmost care and accuracy, as any specialist in reading will attest.

Very little exposition is necessary to bring about the realization of how much diversity in the teaching of reading-improvement is dependent upon the particular attitudes, methods, and proficiencies of the instructor himself. His competence in counselling, the adaptation of materials and practices to specific weaknesses or needs, his very convictions (biases, if you will) regarding the use of certain devices, training aids, and educational skills all serve to provide remarkable variety in the instructional pattern.

Even the atmosphere or major purposes of the institution will often tend to bring about diversity in the reading programs. For example, Redbrick University seems primarily concerned with such training as will lead to comfortable livelihood for its graduates. Here the emphasis, as one might expect, is likely to be mainly on the skills and mechanical aspects of the reading act. But Green Valley College, from which about 80% of each graduating class proceeds to professional or graduate schools, has developed a reading program which does not neglect skills and obvious reading techniques, but goes on to stress depth of understanding, full comprehension, and flexibility in approach to various reading situations.

In addition to these eight factors borrowed from McDonald and Byrne for a specific purpose in this discussion, at least two other matters cannot be ignored, since both contribute greatly to diversity in college-reading instruction. Of these the more significant by far, but the one sometimes rather lost sight of, results from careful, intelligent, and painstaking analysis of the local circumstances both before the program is begun and after its inception. For the most successful and useful reading programs are closely adapted to the common as well as the specific needs of the student body of a given college or university. And it is only after thorough scrutiny of the strengths and weaknesses of the student population that any reading program should be undertaken.

Finally, the most obvious factor of all must be mentioned briefly—that of the actual materials, devices, and instructional aids selected for the day-to-day operation of the reading center. Generally speaking, reading programs are commonly designated as book- or machine-centered. In the first instance, workbooks and instructional manuals or texts are the primary training materials utilized. Machine-centered programs depend in part upon pacers, tachistoscopes, or slide and film projectors for the training provided, along with such printed matter as may be deemed useful. With the tremendous variety of mechanical and published materials on the market these days, the opportunities for varying instruction by particular combinations of pacer X, reading-films Y, workbook M, and tachistoscope G are well-nigh infinite.

Collegiate Reading-Improvement Programs

Now, in view of these many factors which constitute the means of diversification of reading instruction, let us turn to the consideration of several college programs, as they are being offered throughout the country and as described in print. To avoid misunderstandings and false conclusions, however, it should be remembered that these reading courses are not static: they are being and will be modified from time to time, to suit new circumstances or to adapt specific teaching materials to individual needs and local demands. The following programs are chosen to suggest variety and the manifold opportunities for adaptation of techniques, practices, and materials to the best possible instruction for a given body of students.

First of all, let us examine three approaches to the problem of improving the reading of students in a particular college situation.

At Wisconsin State College, Whitewater, (9) the faculty was agreed that student reading skills were seriously weak. After a year's experience with a small laboratory and some work with fewer than 10% of the freshman class, it was decided to integrate intensive reading training with the regular freshman English classes totalling about 500 students on an experimental basis:

> The objective of the freshman English course—to teach students to write clearly and effectively—remained unchanged. But in the experimental classes we sought to achieve our goal by teaching students to read more rapidly, more intelligently, and more critically; by providing ideas for writing through reading; and by analyzing the work of successful writers.

With the aid of an anthology of readings containing workbook exercises to develop basic skills, the results were most gratifying. Students in the experimental sections showed far more improvement than those in control groups, both in reading and writing.

Under totally different circumstances, an interesting program has developed at Bellarmine College-Novitiate in Plattsburg, New York (17). This reading-improvement plan is also book-centered, but it is largely self-administered, also. Students in this program are in the first two years of a liberal arts sequence. Following a year of trial and many hours spent in committee discussion, it was decided that "a concrete, personal approach to a reading program would have to displace the abstract, theoretical approach which characterized the initial phase." Accordingly, the reading program was planned to have six periods devoted to testing and the grading of the tests, at the outset; next each student has a twenty-minute interview with the director of the program, for consideration of the areas in which the reader is deficient and in which he is primarily to work. His own individual reading folder is then turned over to him, containing his profile sheet, a chart of basic principles of developmental reading, additional single pages on vocabulary and comprehension problems, and an index of available reading literature with cross references collating exercises with specific skills. Henceforth, the student works on his own initiative, with the instructor always available for guidance and counsel. Thus the program has no definite schedule of time or place for reading-improvement pratices, but it was the unanimous opinion of the committee which originally planned and set up the program that "personal motivation and interest is the only reasonable basis on which this or any program of self-development can be built, in a word, *trust based on maturity.*"

A third program, quite different from either of the two preceding in almost every respect, is that described by Lewis E. Weeks, Jr., in his article "Speeding Up Reading: A Self-Help Program for College Freshmen" (19). This program was book-centered and mostly self-administered. Testing and a certain amount of discussion resulting from textbook assignments were accomplished during class-time in the English composition course. But all other reading-improvement practices were done "in addition to regular, unreduced assignments" outside. The students were for the most part of sub-college level and generally ill-prepared in reading and writing; they were in the University of Maine program designated as the Two-year Course in Agriculture. Following the suggestion for reading practices given in the texbook, students read approximately one book a week throughout the year; reports on books covered were assigned as part of the composition work. At the end of the year, speed was increased by about 50% on the average without loss of comprehension or vocabulary control. Weeks' conclusions are noteworthy:

> First of all, even with a group that is below average, rather remarkable improvement in rate of reading is possible *solely through a student's own efforts* under some slight guidance and encouragement. The fact that this improvement is self-improvement and did not take up class time nor teaching time is of great significance.

There were other results equally important: "Many of this group read a novel completely through for the first time, and in many cases to their own surprise, found that they enjoyed doing it."

It should be noted that in all three of these programs materials were not extensive, and yet the results are distinctive. In every instance, extensive planning, experimentation, and examination of student deficiencies preceded the final disposition of the training.

Another approach to reading-improvement as indicated by careful scrutiny of students' problems is to be observed in two programs, one in a metropolitan school of business, and the other in a southern state college. At DePaul University, eight years of controlled testing and reading-improvement programs brought the reading staff to the conclusion that "reading skills required for success in college should be operationally defined as 'thinking' skills rather than as 'comprehension' " (2). Moreover, the "controlled and experimental reading improvement programs, over an eight-year period, that have correlated significantly with college semester grade averages are not those with emphasis on speed training, visual span increase, phonics, or even vocabulary, but those with formats directed to acquaintance with the major discernible patterns of organizing and developing thinking in each field of concentration." In order to aid the students in the School of Commerce classified as "inadequate" readers —and this group comprised two-thirds of the total number of freshmen entering this school, some five levels of thinking-skills were identified: Level I represents the "ability to recognize an author's deductive conclusion or to infer one when the facts are inductively presented." The conjunctions *therefore, hence, thus, so, then,* and *in conclusion* are helpful clues here. The second level concerns "statements of positive judgments in a negative form or the reversal of the logical cause and effect relationship. . . ." Level III has to do with contrary propositions, which are almost always identifiable by the presence of *but* in the second proposition; and Level IV includes contradictory propositions, marked by *however* in the second proposition." The final "level of reading competence seems to be attained when the dilemma or paradox is recognized and is solved with the author by making a complex and qualified decision" in which the qualifiers *since, because,* or *nevertheless* are often noted. From these conclusions the reading staff at DePaul has devised a program for its business school students, enabling them to overcome at least some of the inadequacies of their previous training and habits of reasoning.

The staff of the Reading Skills Center of North Carolina College at Durham was faced with somewhat similar problems, specifically as regards full understanding of the material in textbooks, (10) "At times, the chasm seems almost illimitable between the text and the college freshman who has immature language skills." After exhaustive analysis of college texts, the reading program was devised so as to emphasize, first "activities and materials which give students insight into their goals in reading and study through knowledge of the nature of reading, the study cycle, and nature of the English language." Then, in addition, basic word-perception and word-attack skills, essential comprehension and interpretive skills, organization and study, reading skills, and the mechanical skills of reading for flexibility of rate are all stressed.

These five programs which have been thus far considered in detail by no means exhaust the possibilities for suggesting extraordinary diversity and utility of college reading facilities in the United States. Some reading courses place a good share of emphasis on vocabulary development, as noted by Marian Wozencraft in her commentary on the reading program at Feen College, in Cleveland, Ohio. (20) Other programs devote a great deal of attention and energy to matters of study-reading, as indicated in David R. Stone's discussion concerning the reading instruction given at Utah State University at Logan (15, 16). Stone identifies three functions of study-reading, which he calls the *identifying* function, the *collecting* function, and finally, the *cue system*. Esther McConihe places similar stress on study-skills in the pre-college reading course offered at Western Reserve University. (6) In order to cope with sizable numbers of students, some universities rely largely on book-centered programs, as does Cornell University (11); others depend to some considerable extent upon pacers, reading-films, as well as workbooks, like Purdue University (5). Equally of interest for their approaches to common problems of reading instruction is the training given at Marquette (8), Maryland (4), Iowa (13), Florida (14), and Michigan (12) universities.

Unity midst Diversity

Confronted with the mass of this evidence as compiled to demonstrate diversity in precept and practice for reading-instruction, what is the neophyte teacher of reading-improvement, or the teacher-in-training to conclude? Also, how many reading specialists in these very programs analyzed—or others fully as successful and interesting—would agree with Charles R. Colvin's judgment concerning a hypothetical "best" reading program (1)?

Acknowledging that no particular college or university course possesses all of these qualities, Colvin sets forth what he considers significant in the following description:

> In the ideal program, the college administration believes:
>
> 1. That every student can and should improve his reading and study skills to optimum level for him
> 2. That college reading involves complex skills which may be developed through instruction and practice, in much the same way that writing and speaking are improved
> 3. That reading is only one, but a very important, factor in the total adjustment in which students need specialized assistance
> 4. That specialized attention to reading is desirable because of the wide range in reading ability which entering freshmen demonstrate on standardized tests

He goes on to suggest further practices which he believes will be appropriate to these generalizations which he brings forth.

Whether Colvin's instructional hypothesis is Utopian, millennial, merely injudicious and impractical—or eminently sound in theory and suggestion for actual programs—is surely open to argument. Yet it is indeed true that most college programs today show the following objectives:

1. To make individual readers more critical and observant
2. To strengthen vocabulary and increase potential for clear understanding and communication
3. To create diversified reading interest by broadening vicarious experiences
4. To increase permanently the rate of reading with satisfactory maintenance or rise in level of comprehension (3).

With realization to the full of this common ground upon which rests the teaching of reading improvement in college, reading specialists may assure themselves and their students in teacher-training classes, as well as inexperienced teachers just beginning their careers in the conduct of reading programs that, despite the striking disparity in individual characteristics of particular reading courses, there is equally striking unity amidst all this diversity. For the truth is that the ends sought are largely common to all such programs, though the professed or even the unexpressed aims often seem remarkably independent and free from similarity to courses in other colleges.

Notwithstanding the noteworthy wide range of means adopted to bring about the desired goals, it is thus apparent that the most effective and enduring of reading programs are based: first, on detailed analysis of specific needs of students as demonstrated by test and observation; second, on selection of the most useful printed matter and mechanical teaching aids to enable each student to eliminate his own deficiencies; and third (finally), on continually modified instructional techniques, materials, and devices to the end that reading skills, habits, and achievement are developed to the very limits of every student's native capacity.

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DISCUSSION

DR. MIRIAM SCHLEIGH opened the discussion by commenting: The first question that comes to my mind is, what are some of the causes of this great diversity and complexity in reading courses, and should such diversity characterize reading programs any more than they should characterize the comparable areas of English or speech or any other courses? I have been working with college and adult students since 1948. A tremendous diversity has been evident within my own courses, and my 1948 course bears absolutely no resemblance to what I am doing today in materials, in instrumentation, or in approach; and so I am wondering if there is any connection also between this diversity and the variety of professional training which the faculty involved in these courses has received, on the one hand, and our changing status as reading specialists among our colleagues, on the other.

It seems to me that if we had professional training as carefully designed for the instructor of reading at the college level as we do in other areas that there perhaps would be more uniformity than there appears to be.

DR. JAMES I. BROWN commented, briefly, that diversity may well be one of the characteristics in our teaching of reading that has detracted from the status of reading courses generally. Perhaps we have so many different ways of doing the same thing that I wonder if those who are teaching reading know exactly what they are doing in terms of total outcomes. The point is certainly one for us to consider.

DR. ARTHUR McDONALD reacted to the paper with the following comments: I disagree that training makes for uniformity. I think you will not find that this is so in medicine, in psychology, or in any other of the "helping" services. The major element is instructor competence, not alone in the reading field but in every area of instruction in the college.

Now within this college situation you will find that the outcomes of the programs which are successful as stated in operational terms, or in other words testable terms, in every successful program aims at change on three levels of student behavior: cognitive, connotative, and emotive. Without changes at all of those levels a program cannot be successful.

DR. ALBERT HARRIS was the third discussant to comment on Dr. Schick's paper.

I am inclined to agree with the thought that one of the major common elements of successful programs is their adaptation to local needs and local circumstances. In teaching teachers how to teach reading in the elementary school, I find that they want magical formulas which they can take into any school, regardless of what the pupils are like, what the administration is like, what the community is like, or what the facilities are like, and expect them to work in all situations equally well.

A second point that impressed me was that programs involving a minimum investment of staff time can be successful when the student is helped to understand his own needs, given specific diagnostic information which he can utilize and then is provided with the ways and means of working ahead on his own problem, at his own rate, and on his own initiative.

Not all students are mature enough to do this and so a third problem—and highly important—is a consideration of the way in which we are going to overcome the defects of will which so often accompany the defects of skill.

Finally, at least one of the programs that Dr. Schick described for us stresses the unity of communication skills which we are now trying to pay a great deal of attention at the beginning levels of the reading program, and it is very interesting to me to see that we are beginning to get reports to the effect that when you emphasize greater understanding of the reading process as related to what the author has done, you are also getting measurable by-products in the improvement of the student's ability to be an author himself.

I suspect that the reverse is equally true, that if we took the trouble, we should find that effective instruction in composition should produce interesting by-products on the student's ability to read.

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3. Methods and Materials in College and Adult Reading Programs

Active interest in the science of reading instruction is a relatively new phenomenon in American education. Only thirty-four published studies relating to reading were made in both the United States and England prior to 1910 (20), but over four thousand studies of reading have been made between that date and the present (44).

Summers (55) compiled a bibliography of doctoral dissertations completed between 1918 and October, 1960 which had investigated the problems of college reading. He listed thirty studies in the thirty-two years between 1918 and 1950, and thirty-one studies in the ten-year period between 1950 and 1960. In Robinson's (42) January, 1963 report of investigations relating to reading from July 1, 1961 to June 30, 1962, 180 references were listed, with approximately a third relating to problems of college and adult reading. In a previous five-year period as recent as 1946 to 1950, only seventy-seven studies involving college and adult reading programs were reported (16).

This historical perspective of the growth of research in college and adult reading indicates that neither the methods nor materials which were the natural outgrowth of this research have had the opportunity of long periods of scientific incubation or refinement; yet they indicate a growth in experimentation not matched by any other curricular area.

Differences Between College and Adult Programs

Although both the adult and college programs may utilize many of the same techniques of instruction, certain basic differences in student enrollment do exist which may require modification in either methods or materials. Bryant and Kovar (7) summarize these differences in the Ninth Yearbook of the National Reading Conference. Members of the adult groups tend to be older, have broader experiences, and have more specific reading tasks. The adult tends to be more critical and more impatient, although he has been away from school-oriented activities. He is enthusiastic when motivated, but he is more rigidly attached to his present reading techniques and is more easily threatened by comparison with peers and subordinates. Stevens and Fulker (54), comparing reading programs in government with college offerings, report that the program in government is part of training and not educational in the strictest sense. That is, while the college program may range in materials from the aesthetic to the philosophical, in government as well as industry, the objective of training is to make the employee more effective on the job.

A summary of the literature by Sayles (45) indicates that, while there are significant lasting gains in college programs, this is less true in adult programs, with students simply returning to old habits after the program.

Methods of Instruction

The methods of organization and techniques selected for use by an instructor obviously set the tone for, and ultimately help determine the final success of, any program. Acker (1) reported that a survey of 177 adult reading programs showed most programs emphasizing mechanics of reading. Two-thirds of the programs were voluntary and 60 per cent of the agencies used group instructional methods, 30 per cent combining this with individual instruction.

Miller (36) made a survey of 233 college programs in 1957 and found that by far the most popular method of instruction was through group procedures. Ninety-six of the groups studied used workbooks for whole-group practice with mechanical aids, supplemented by individual practice in workbooks. Forty-six institutions utilized a group program but used both workbooks and mechanical aids individually, with no common practice for the entire group.

As early as 1955, Spache (51) reported to the National Reading Conference on the growing recognition of emotional and personality factors as an orienting focus for reading programs. McDonald, Zolik, and Byrne (34) discuss such a program in the Eighth Yearbook of the National Reading Conference. Ten therapy sessions were given to one group of subjects and an extra hour of individualized reading per week to the other. Subjects in the group receiving therapy made better progress in reading, became more flexible in their approach, and generally improved on assessments of personality when compared with the control group.

Three methods of instruction, including a class centered around a reading workbook, a class centered around an audio-visual approach, and a group using an individualized, self-help approach were compared by Spache, Standlee, and Neville (52). Results of the three methods indicated no significant differences in meeting the goals of instruction in reading rate, vocabulary, or comprehension. Reading habits and attitudes, however, were significantly improved by using the individualized, self-help approach.

Television also provides a method of teaching adults in reading improvement that has previously been impossible. This writer earlier reported on a large southeastern states experiment in which television was used to teach thousands of adult illiterates to read. (3) McDonald (32) directed an adult developmental reading experiment sponsored by Marquette University and carried by CBS television station WXIX-TV. In a study of college students, McDonald (33) also reported a research project that showed that television instruction was the most effective of three methods in terms of the amount of information remembered and applied, with incidental instruction the least effective.

A study comparing closed-circuit television presentation to face-to-face instruction for an adult reading improvement course was made by Buckley (8) at the University of South Carolina in 1962. This study showed that, while there was significant improvement brought about through instruction, no significant differences were found relative to the methods of instruction, indicating that, in terms of the number of persons reached, the results were highly favorable to this mass medium.

Library personnel and services have also sponsored adult reading programs. The public library of Trenton, New Jersey, offered twelve two-hour weekly meetings for reading improvement, including diagnostic testing, informal lectures, tachistoscope and workbook training. Although the librarians involved in instruction were not trained as reading teachers, substantial gains were reported at the end of training in both comprehension and rate (12). Keller (27) and Siegel (47) reported the results of a five-year research program conducted jointly by the Brooklyn Public Library and Brooklyn College which was "designed to demonstrate that reading improvement techniques can be taught with success in libraries by librarians at relatively little capital expense, as well as to show how community problems can be met jointly by community agencies such as the public library and the college." (27)

Although these various methods of program organization represent major basic patterns, they of course cannot be wholly representative of the many combinations which have grown out of them. Universities and colleges, industry, business and the military, as well as commercial and privately operated institutions offer programs modified and tailored to the needs and purposes of their selected audiences. It may be reasonably concluded that methods of organization currently remain in a very fluid and experimental state.

Materials of Instruction

Workbooks: Research culminating in collections of workbook and textbook materials for college and adult reading lagged behind the period when programs were beginning to develop. Although Louella Cole Pressey published a *Manual of Reading Exercises for Freshmen* as early as 1928, few other instructional materials appeared on the market before 1950. In 1941, an analysis of fourteen years of prior manual publication was made by Laycock and Russell (28). They found that "the manuals analyzed revealed a lack of research references on specific problems of study and much disagreement regarding the most effective study habits and skills . . . and that few of them had any basis in research findings for their suggestions regarding the improvement of study methods." (28) Harvey Robinson (41), in a review of remedial texts at the college level as late as 1950 stated: "No particular professional acuity is required to penetrate the superficiality of types of exercises and treatments which characterize most of these volumes." (41) Further, according to Robinson, these materials were overly concerned with reading speed, contained no well-rounded index of comprehension, and indicated an absence of exercises to develop basic organizational skills. Because of these limitations, many instructors began to experiment in their own programs and by 1954 there was a rush of publications appearing for laboratory and clinic use. Of the thirty-three manuals and workbooks reviewed by Miller (36) in 1957, twenty-seven of them had been published in the first half of the 1950's. One-third of these workbooks contained five or more types of exercises, including word meaning and vocabulary, phrase and sentence meaning, skimming or idea reading, exploratory reading, and critical or analytical reading.

Bliesmer (5), writing in 1959, states that these materials continue to appear in increasing numbers and indicate a trend toward emphasis on a variety, rather than a very small or narrow, number of reading skills. When one considers that in studies by Holmes (24, 25) not all of the factors of rate and comprehension could be accounted for in fifty-four separate tests, then obviously a multi-factor approach to reading is quite necessary.

Workbooks make up an important part of the programs being offered. In a survey by Causey (11), published in 1960, 88 per cent of the more than five hundred college programs then in existence used workbooks as an integral part of their materials.

Irene Cardwell (10), in a 1955 issue of *School and Society,* reported a study of an adult program for industrial administrators and supervisors which indicated that rate and comprehension could be improved at a one per cent level of significance using practice exercises of workbook variety and with lecture and discussion the only other training technique.

In 1960 Acker (2) reported from a study of 177 adult programs that textbooks and workbooks were emphasized more than any other single type of equipment or material, with a concomitant decrease in the use of mechanical equipment. As Miller's (35) review showed, by far the most popular basic training materials aid was the workbook supplemented by individual practice with mechanical aids. Eller (14), speaking to the National Reading Conference in 1959, stated that it is distinctly possible to have a high grade reading course with workbooks, other printed reading materials, and a few tests and student record materials.

Many programs reporting the use of workbooks and other aids placed emphasis also on the encouragement of free reading in library materials. Colvin (13), fabricating what he called an "ideal" college program from a summary of methods and materials used in forty-two college programs in Pennsylvania, listed extensive library facilities as of paramount importance to the functioning of these programs. However, simply encouraging students to read without a clear awareness of the scope of their problems, or without a knowledge of their needs or that reading will help meet these needs, will result in reading of a rather purposeless, random sort, according to a study by Handlan (22). A study by Leavell and Wilson (29) indicated that, of the variety of methods used with several experimental groups, the guided free reading program, including direction by an interest inventory and individual and group conferences on book selection, met the need for growth in skills and added to individual initiative and interest.

Mechanical Devices: Probably the most controversial tools found in college and adult programs are the mechanical devices used to improve reading rate. Stanford Taylor (56), writing for *The Reading Teacher* in May of 1962, offers a very thorough description of the instruments currently in use. He discusses tachistoscopic devices, directional attack control techniques, the accelerating devices, and the skimming and scanning instrument.

Much interest has been maintained over the past three decades in regard to the value of improving visual performance in reading through use of these mechanical aids. A report of the Research Division of the National Education Association as early as 1935 said that:

> Whenever faulty eye-movement habits are discovered, teachers should regard them as symptoms of some fundamental difficulty—not as causes of poor reading. They are to be eliminated by finding and correcting the real difficulty, not by attempting to pace the eye-movements as some have attempted to do. (39)

Miles A. Tinker (58), a pioneer in eye-movement studies, wrote in *School and Society* in 1934 that there is lack of evidence that training eye-movements, as such, develops effective habits which improve reading ability; and Buswell (9), from an experimental study of reading improvement at the college and adult levels, reported in 1939 that training eye-movements does not increase reading ability. But research studies on this question are still very much in evidence. For example, Thompson (57) reported in 1956 a seven-week experiment with adult groups which were divided into workbook sections and machine-centered sections. Results indicated that in comprehension and flexibility, no significant differences were found relative to materials of instruction. Measures of rate of reading indicated that the workbook-centered reading instruction in the twenty-one hour courses resulted in reading rates that were significantly higher than rates attained by machine-centered instruction.

Many of these later studies have been reviewed and summarized by Spache, Karlin, and Gates. Spache (50), reviewing the earlier summaries of Traxler and Tinker of 1943 and 1946, respectively, and also the literature up to 1958, concluded that:

> We have found little evidence that various mechanical devices produce greater improvement in rate of reading than other approaches. Training intended to modify eye-movement characteristics such as regression, duration of fixation, perceptual span, or number of fixations is highly questionable. These eye-movement characteristics may not be amenable to training since they, like reading success, are significantly determined by the nature of the reading material and attributes of the reader. (50)

However, according to Spache, it is not appropriate to dismiss mechanical training devices as insignificant. He suggests that mechanical training is successful in that in effect the student "is being taught to read with fewer cues, to guess more readily what he sees peripherally, to overcome the caution exhibited in slow or word-by-word reading, and to be more confident in dealing with vague or indistinct portions of words." (50)

Reviewing the research relating to machines and reading in both college and adult level programs, Karlin reported in 1958 that "outcomes in speed of reading similar to those achieved through the use of special instruments may be expected through suitable reading instruction which does not include these same instruments." (26) After a study of observed eye movements of selected readers and a study of the various reading machines used to improve visual attack, Gates (18) wrote: "A superior type of reading is thwarted at every turn by these controlled exposures. . . . This thwarting may have results that are seriously disadvantageous." (18)

Yet reading instruments have a very permanent place in reading improvement programs. Taylor (56) listed responses from 777 International Reading Association members in 1962 which indicated that 59 per cent used one or more types of reading instrument. Miller's (35) survey found that the second most popular pattern of material usage, followed by fifty-one institutions of his sampling, was one of basic group practice with mechanical aids supplemented by individual practice in workbooks. Forty-six of the colleges reported using both mechanical aids and workbooks for individual practice.

Teaching Machines and Programming: Educational automation in the form of the teaching machine has become of interest as a teaching method to psychologists and reading specialists. In operation, the teaching machine presents the first in a successive sequence or minute steps of stimuli, such as a series of comprehension questions from a reading. The student answers in an appropriate fashion, and immediately the correctness of his response is available to him. If his response is correct, the next stimulus is called for and the student again responds. If a response is in error, various corrective measures may be taken, such as the next stimulus being of the same difficulty level as the one on which the error was made.

Programmed materials for the teaching machine can, with modification of format, be used in the same fashion as any workbook, yet maintain the working element of stimulus, response, and reinforcement. Rankin and Smith (38), speaking at the National Reading Conference, and Edward Fry (15), writing for *The Reading Teacher*, have presented detailed explanations on the use of programming and teaching machines in the area of reading.

Although B. F. Skinner had notable success in training animals through the use of immediate reinforcement for approximating correct behavior patterns, Riegel (40), writing on programming for *Elementary English*, believes that a complex learning such as reading demands a higher level of mental processes than the typical program will offer. For some learning experiences, for example, Riegel points out that a total configuration or plan of the material should be viewed before details are learned. She also raises the questions as to whether the dull and the superior student can profit alike from the experience, whether such programming can encourage critical thinking, and whether or not programming lends itself naturally to review.

The preparation of programmed materials has been discussed by Rankin and Smith (38). A comprehensive listing of programmed materials presently available in language arts and reading appears in *Programs, 1963, A Guide to Programmed Instructional Materials.* New York: The Center for Programmed Instruction, Inc., pp. 205-256. (Available from: Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., price $2.50).

Other Materials of Instruction: Several "package" or ready-developed programs are available which present a variety of activities purporting to develop reading skills. For example, the Perceptual Development Laboratories of St. Louis, Missouri market such a program, including a multi-function projector, training films, and associated workbooks and practice lessons. Educational Developmental Laboratories of Huntington, New York have available several organized instructional offerings, including the "Reading 400 Auto-Instructional Reading Program," and the "Listen-and-Read Program." Science Research Associates of Chicago produce the multi-level Reading Laboratories, and Columbia University and The Reading Laboratory, a private corporation of New York and Philadelphia, also have available auto-instructional programs for the college and adult subscriber.

These programs are convenient to use and seem to offer the instructor or individual student a ready-made recipe for the best in instructional format and design. On the other hand, Causey commented in the May, 1960 issue of *Education*:

> Since the effectiveness of procedures may vary from group to group, the necessity for frequent evaluation of procedures by the instructor becomes evident. In a good reading program, the instructor adopts practices and measuring procedures designed to develop the different skills and avoids the use of the so-called package deals. (11)

There are other single purpose or restricted purpose materials and devices of varied importance ussed in reading instruction, and selected ones are included here for their general interest.

The cloze procedure is a recently developed technique, introduced originally in 1953 as a test to measure the effectiveness of communication. Rankin (37), who discusses the technique in the Eighth Yearbook of the National Reading Conference, describes the construction of the procedure as the deletion of certain words from a context and the substitution of underlined blank spaces of constant length in their places. The person taking the test tries to guess the precise words which are deleted. Rankin continues that "the ability to predict the precise word used by the writer is more indicative of the reader's understanding of the writer's total meaning . . . than the prediction of a synonym with similar, but never quite the same, connotations." (37) The technique as a remedial reading exercise was described by Bloomer (6). Results of this experiment indicated "that the cloze procedure produced a significant increase in reading comprehension scores and in predicted college average. The cloze exercises appeared to be more highly motivating than a more conventional program." (6) Some of the values of the cloze procedure, according to Bloomer, are that it fosters close attention to detail and awareness of the main idea within the paragraph and develops the ability to infer from that which is written. On the other hand, the procedure does sacrifice work on speed for work on attention.

Values of miscellaneous aids, including the chalkboard, tackboard, filmstrips and slides, films, television and kinescope recordings, records, and radio, have been discussed by Spache (49) in the Sixtieth Yearbook of the National Society for the Study of Education. Maxwell (30), in a 1963 issue of the *Journal of Developmental Reading,* proposes a self-help approach to better reading through better spelling for college students, and McCord (31) suggests a possible aid in teaching adult reading improvement through the use of music. The results of a study in which music was played during instructional periods indicated overwhelming subjective approval, many of the subjects stating that the music helped them to read better.

One of the more interesting developments in reading in recent years which could be related to program methods and materials has been the study by Smith and Carrigan (48) in which certain psychic energizers, taken orally, produced changes in reading output. In 1960 a criticism by Harris (23) of this study appeared in the *Journal of Developmental*

Reading. While Harris felt that the Smith-Carrigan work was a valuable step forward in terms of willingness of researchers to explore new facets of possible reading correlates, he criticized it, claiming it contained various fundamental weaknesses in design, statistical treatment, and reasoning. Staiger (53) carried out the same type of study, using sixty pairs of retarded readers. Results indicated that, at all three age levels, clerical speed and accuracy were improved beyond chance differences for those subjects who were administered a drug. The complex activity which is reading was not influenced to any great extent by the medicine.

Conclusions

Summarizing the literature on the present use of methods and materials in the adult program, instructional techniques are selected to include the broadened objectives of vocabulary building, diversified reading and comprehension, flexibility, better writing, speaking and listening, and better management of time, in addition to the improvement of rate, which was the sole purpose of many of the earlier programs. There has been a marked trend away from the indiscriminate use of mechanical aids toward materials to fit individual needs. Training personnel now ask, "Where can we get a good instructor?", rather than "What equipment should we buy?" (17)

If particular emphases on selection of college level methods and materials were to be singled out, I would include those that place emphasis on the development of purpose of flexibility in reading, maintain a high level of transfer value to the content area, relate to the significance of personality factors in reading difficulties, and introduce opportunities for learning skills of critical and creative reading. These basic elements of reading maturity find expression in many research studies and programs. For example, after an intensive study of eight years of experimental programs at DePaul University, Halfter and Douglass (21) concluded that those programs which correlated significantly with college grades were those which emphasized major patterns of organizing and developing thinking in each content field. Shaw (46) lists of major importance those skills of skimming and scanning for the identification of the author's purposes, main ideas, and scope of subject matter.

Creativity as a dimension of reading performance has received a new impetus through the work of Torrance at the University of Minnesota and many others. While only nine articles were listed in the *Education*

Index under "Creative Ability" between 1951 and 1955, ninety-nine articles were listed under this heading for the five-year period from 1958 to 1962. One of the latest studies of the relationship existing between measures of creativity and certain skills of reading was completed by Roughton (43) in the summer of 1963. An ascending order of relationships was found between creativity and measures of reading, moving from measures of concrete, detailed thinking in reading to aesthetic levels of poetry and other literary comprehension.

Ideally, the selection of methods and materials for a program of reading improvement should be based on the needs of the individual. While it is true that for the instructor with large adult or college groups complete individualization is relatively impossible, face validity should at least be kept in mind when planning methods or selecting materials. Matching materials and methods to a group suggests that the interest and difficulty level be in keeping with the group's common needs and understandings, and that they truly contain the kinds of skill-building characteristics that are to be included in the program.

According to a study by Bernstein (4), the lower a person's reading ability, the greater is the relationship between his interest and reading comprehension level. Problems of physical development, sex roles, developing a set of values, and discussions of various professional goals might hold the attention of the typical college student, but materials selected for an adult group might well deal with such topics as job satisfaction, professional success, and the like. Thus, with the college student or businessman, that with which he is familiar motivates and interests him. With some individual guidance in book selection, he will likely then attempt greater diversity in his reading.

If the learner recognizes his need and understands that reading can help him to fulfill it, and if he fully realizes what he is trying to accomplish in a reading program, real motivation for learning should certainly be present. Gauvey (19) sums up these ideas this way:

> Not sound films, nor educational comic books nor all the audio-visual aids in the world can lure a student from his sweet repose, unless these devices are used as learning aids rather than teaching aids . . . Teachers can plead, beg, and tempt, but real learning springs from the students.

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DISCUSSION

Dr. Miriam Schleich opened the discussion of Dr. Berg's paper with the following comment: I'm going to react to only a few areas. One of the things that I was interested in was the idea that complete individualization is relatively impossible at college level programs, and my feeling is that it also is seldom desirable. There is a great deal of learning that can take place at the college level, in the interaction of the students, in discussions on particular skills, in critical analysis of material—and much is to be gained, I think, by some group work in addition to the individualization which we all agree is essential—and I feel that this group procedure is important in materials, too.

Dr. Arthur McDonald next commented on Dr. Berg's paper, opening his comment by saying: I would say that I find disturbing, the dichotomization which Dr. Berg reports in his studies, between training and education. I think reading is too complex an act to be comprised under the term, training, although I think the term probably describes accurately what is going on in many programs.

I also am disturbed by the reports which he cites, which show such superficial criteria success. I disagree with the point of view expressed that businessmen are not interested in reading anything except business-oriented materials. A number of studies have shown quite the contrary, and I think that probably the best authority we have right here, Dr. Walter Pauk* might want to make a comment to that regard.

There have been a number of studies on a follow-up basis, reported a paucity of these, I think, so that you can react; the General Motors study in the one, two, and three-year follow-up did not show loss, but of course this was using a very coarse instrument, a diagnostic reading test. Marquette also did a three year follow-up using much finer screening instruments, and in our study of the urban population of the Milwaukee area we found that the type of reading reported correlated very highly with education, which has been found before, with ability, with completion of reading programs and the type of reading programs that they have completed, and with their status.

*Dr. Pauk's comment is found on page 44.

I agree that complete individualization is not desirable, although I would say more on the basis of feasibility than this business of group participation. I don't think anybody should have a group so large that he can't have individualization to some extent in terms of conferences or individual reports or something of this nature, and the student should have a diagnosis of sufficiently fine discrimination that the instructor knows what the individual needs.

I think, finally, that a letter I received from Robinson shortly before coming here, commenting on a study which I had sent him, said that he was very distressed that in thirteen years since the appearance of his note on college reading programs, people were still doing the things which he had pointed out were significant weaknesses.

Dr. Berg replied to the foregoing comments: Actually what happened was that I did not make clear my meaning at one point and that was that one of our major aims in teaching adults to read is to get them to read widely in diversified fields. What I did not make clear is that when I thought it was necessary to use materials in the beginning of the program, which were quite highly job-oriented—materials with which they feel comfortable and with which they are acquainted, rather than to try to lead them directly to materials of a much more sophisticated sort, the thought here being that as adults become acquainted with a program, as they become acquainted with the instructor, as they become acquainted with the materials and the techniques, that they then obviously are led to read into many other areas, and I am glad that you picked that up.

Dr. James I. Brown continued the discussion by saying: I would like to comment on some things from Dr. Berg's paper. I was very happy that he mentioned the research by Holmes, because of all the research I have been looking at recently, this is among the most significant, so it seems to me, because he is attempting, as some of you know, to focus on the factors that contribute most to speed, and on the factors that contribute most to comprehension. And this gives us research evidence for taking a multi-factor approach in classroom teaching, in our selection of work books and in our evolving classroom techniques.

I would like also to go a step further here, because when you take a look at his first order factors, contributing to both speed and comprehension, you see that vocabulary is contributing more to both speed and comprehension than anything else.

There are also unaccounted-for factors, but vocabulary contributes more, so that we have reason to think in terms of a more strongly vocabulary-centered approach to reading instruction on the basis of this research. It points up the need for a much closer scrutiny of vocabulary elements, because he makes a distinction between an isolated vocabulary and words in context and then discusses prefix and root elements and their relationship to effective reading.

So this, it seems to me, has very important implications for us both in teaching and research.

The second point I was interested in noting was the discussion on programming. I was very happy to see that because that happens to be our newest tool for use as teachers of reading. In looking over one of the dialogues of Plato, I came across, as I am sure some of you have also, Socrates questioning a Greek slave about a diagram and revealing that this uneducated man, through the questioning alone was comprehending the truths of geometry, and I suppose maybe Socrates is the first educational programmer, reinforcing, structuring and stimulating—using stimulus and response learning.

Dr. Alton Raygor asked at this juncture: Paul, you mentioned that one of the experimental evaluations of program material at the college level—I don't know how much there is.

Dr. Berg replied with: They are commercially available. I know that you have been very interested in this area. I was thinking of what teachers will use if it were available, and I really do not know of anything.

Dr. Walter Pauk spoke to a matter which had been earlier discussed, and referring to the reading habits of businessmen and the material which he reads said: I think? clarified the issue very well, that businessmen do like other kinds of material, than job-oriented materials, that they like to get some of the same kind of materials that the student is getting in the college. They like to identify themselves with the so-called classical material or literature.

Dr. Esther McConihe commented further on the theme of the businessman and his reading by observing: It occurs to me that considering the business executive as a reader and his fear of any implication of ineffectiveness that you mentioned, the use of material that is related to his job might be more threatening than material that is not related. What you are doing, of course, is trying to make people change attitudes, to change methods, to change points of view, to change habits, and it has always been my theory, if you move right into that material, you are going to threaten them much more. So that this question of material has another factor. Hand them something that is not at all related to their jobs, they are far more apt, it seems to me, to say, Well, what do I have to lose, this does not mean anything. If you give them something that is related to the job, immediately they say, Oh, every word is important, and you have a much bigger block to break down.

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4. Who Can Profit *Most* from Developmental Reading at College-Adult Levels?

THE CONCEPT of teaching reading to college students and adults came into American education about forty years ago. Prior to 1922, the literature failed to report a successful study in which a reading course had been included in a college curriculum.

In the years that followed the organization of the National Reading Conference, the annual yearbook has been full of articles that have described programs, some successful and others not so successful, used in college and adult reading programs. Most of these articles have attempted to explain the methods and materials used to achieve student improvement in reading. Different factors of reading have been measured at the initiation and completion of these programs. Results of achievement have been organized to enable the researcher to test for significance; others simply reported what was found from mean or median scores. A number of studies were designed to ascertain the retention of gains made in reading. Several studies equated groups of students to find if those students who completed college reading courses made better grades subsequently than those who had not enrolled in a college reading course. Generally, better grades were made by those who completed a college reading course.

Developmental reading has different meanings to different people. It seems appropriate that a delineation be made before any attempt is made to describe what it does. Many readers who enroll in college and adult reading programs have inadequate skills to cope with a developmental reading program. These readers could profit most if enrolled in a remedial program. The differences between a remedial reading program and a developmental reading program must be recognized. Finally, there is a need to ascertain if some students can be expected to make gains that are significantly greater than gains made by other students.

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Three objectives are planned in this paper. They are: (1) a definition of developmental reading, (2) a definition of remedial reading, and (3) a research technique designed to compare three factors of reading. The reading factors of rate, vocabulary, and comprehension will be investigated. College and adult students will be compared separately.

A Definition for Developmental Reading

It has been stated earlier in this paper that few authorities hold complete agreement when they seek to define what developmental reading is. As far back as 1948, th National Society for the Study of Education Yearbook, *Reading in High School and College,* had only one reference to developmental reading. In this yearbook Witty (23) emphasized the need for a developmental reading program for high school and college years. He emphasized that a developmental reading program should provide:

> (a) the basic skills of reading required of all students (b) skill in reading and studying different types of subject matter (c) reading experience to help the student understand himself better and to satisfy with increasing success his personal needs (d) reading experience to assist him in becoming a more effective citizen in and out of school, and (e) experience that will result in a more enjoyable and profitable pattern of leisure reading.

Witty (24) concluded, in another publication, that "effective programs in reading are based upon children's needs as shown by a study of their physical and social maturation, previous experience, purposes, interests, and attitudes."

Harris (13) explains that "developmental reading activities are those in which the teacher's primary general aim is to bring about the improvement of reading skills." The skills listed by Harris under developmental reading are classified into the following two categories: (1) the mechanics of reading and (2) reading comprehension. He also includes functional and recreational reading in a developmental program. Russell (20) used 223 pages in explaining the developmental phases of the reading program. His most concise statement relative to the definition attempted here is brief. He writes that "the developmental reading part of the reading program is concerned with the growth of reading habits, skills and attitudes needed for living in modern society." The first emphasis in college reading courses was on study skills and habits.

These descriptions and definitions are an aid to the reading teacher who has been charged with the responsibility of initiating a developmental reading program. From these definitions, the goals and objectives of a developmental reading program can be formulated.

With these statements from recognized authorities in college and adult reading, one should organize a developmental reading program in an effective and efficient manner. Two broad aspects are apparent. The instructor of developmental reading must plan his program to include the physiological and intellectual aspects of reading. Exercises designed to produce proper eye movements must be used. Body and head location in relation to reading materials should be emphasized. Development of word recognition techniques through the use of context clues, phonics clues, structural analysis, and the dictionary are necessary. From the exercises just mentioned the student can acquire a large sight vocabulary, the vocabulary that is known from immediate recall. As these skills are being acquired the instructor should design the type of questions that would cause the student to think critically, to "read between the lines," to recognize propaganda as such. The student will need to learn to read to find main ideas, to locate specific answers to questions, to note and recall details, to see scope and sequence, to follow directions, to anticipate outcomes, to recognize the author's intent, and to be able to evaluate and criticize his reading material. At the same time these skills are being developed, the student should be acquiring a rich and extensive vocabulary The reading instructor must not neglect exercises to increase the students ability to read more rapidly. These exercises usually consist of material that is "easy" for the reader and should not involve many difficult concepts.

A Definition for Remedial Reading

This writer has had semantic difficulties in securing an appropriate name for services to those students who require diagnosis and instruction in reading beyond what is feasible for a regular classroom teacher to provide. If a student is progressing at what appears from competent appraisal to be his capacity, and yet is considerably below the average level of achievement of his age group, should he be called a "remedial" reading case? The instruction to be offered in such case would certainly not be qualitatively different from "developmental" or regular reading instruction, although more individualized. If, from competent appraisal, a student is not progressing at what appears to be his capacity, and is far below the average level of achievement of his age group, is he more properly called a "remedial" reading case? The instruction to be offered in such a case could certainly be qualitatively different from "developmental" or regular reading instruction. These questions and others require carefully arrived at answers before the reading teacher can organize the most efficient and effective reading program for college and adult students.

The severe cases of reading disability are called remedial cases. These cases need help which should be given if possible by a teacher who has had special professional training for such work. Remedial reading is done with less than ten children in the reading class. Remedial cases involve students who have deficiencies in reading skills and are below grade placement and may be from two to five years below mental maturity level.

When discussing the various phases of a typical reading program, Russell (20) described it as "giving special help to a few children who are considerably retarded in reading abilities . . . done on individual or small group basis." Heilman (15) wrote "there is general agreement in the literature on remedial instruction that before the child can qualify for remedial reading the gulf between his ability and his achievement shall measure at least a year." Based on definitions of remedial reading given by leading authorities, the reading teachers can arrive at several pertinent points for his own classroom organization. Groups will be formed on the basis of instructional need. One of the most significant aspects of modern remedial programs is the attention thus made possible to the needs of individuals and small groups.

The word, remedial, is being used less and less even for special cases of reading difficulty. Two reasons are given for this: (1) the stigma attached to any kind of remedial work, and (2) the developmental point of view seems much sounder. Work with retarded readers is essentially developmental because the worker starts where the reader is and helps him from that point, to move forward along his true developmental growth curve. Smith and Dechant (22) support the concept stated above.

The methods and principles of remedial teaching and developmental reading are distinguishable by the emphasis on individualization. Gates (11) points out that the primary characteristic of remedial instruction is individual instruction for individual needs. Actually remedial teaching is merely a phase of developmental teaching. Teaching that is remedial for one student will be developmental for others. Smith and Dechant

(22) concluded that it is the nature of the child rather than the nature of the teaching that distinguishes the two procedures.

Not all students enrolled in college and adult developmental reading classes can achieve the maximum gain by being instructed from a developmental reading approach. If a student were so far retarded that he needed individual or remedial help, he would profit less from group instruction. In a situation of this kind the reading teacher must first give individual instruction until the student has achieved a level sufficiently high that will enable him to receive maximum benefit from developmental reading. The important thing to remember in remedial reading is to plan a program for each individual based on individual needs.

A Research Technique

The articles published in the current journals concerned with reading instruction have given the researcher several designs used in selecting students for enrollment in developmental reading programs. Of these, the article by Jones (17) is positive in its reference that students should be selected entirely on a voluntary basis. Even though a voluntary basis seems to be the best method, some colleges and universities require students to enroll in a course in developmental reading if they measure below a criterion score on a college entrance test. The criterion score may vary from the 10th percentile to 25th percentile. The *Central State College Bulletin* (7) has the following to say relative to remedial courses: "Students who score low on the mathematics, English and reading sections of the ACT tests will be required to enroll in remedial courses in these areas." The word "low" as used here has been interpreted at various times to mean anywhere from the 25th percentile down to the 10th percentile. At the present time, the 10th percentile is the upper-level criterion.

For some time the reading teachers at Central State College [Oklahoma] have been concerned with the results obtained by students enrolled in developmental reading. Specifically, the following questions have been raised. Are our students who enroll in college and score below a certain criterion score on a reading test achieving adequate gains? Could greater gains be expected by students who score at a higher level on a reading test? If greater gains can be expected of students who score at a higher level, are these gains significantly higher? These questions and others seemed pertinent. Miller (19) found that during the three years from 1955 to 1958, thirty-one colleges abandoned their reading programs. This was 13 percent of those colleges that had reported a reading program in 1955. One of the causes given for abandonment was that "the program had been too costly." Admittedly, reading programs are costly, but they could be less costly if a more efficient technique could be found to enroll students in a college reading program. If it could be shown statistically that students who score on entry tests at levels above the first decile are able to make significantly greater gains than those within the first decile, many students who are not now reached could be advised to enroll, with confidence that they would make greater gains. The increase in gains made should offset the cost of maintaining a college reading program.

It seemed desirable that an investigation of the literature be made to ascertain if previous research would shed light on this type of statistical study. Few studies were found. Heftel (14) found that "those students who were initially the fastest readers made the biggest rate gains." No test of significance was reported. Beasley (1), in classifying freshman students into lower quartile, middle 50 percentile, and upper quartile, found that "more retention and transfer of learning occurred for those students not falling in the lower quartile." He recommended that participation in the Freshman Reading Program should be required of students other than those making low scores on the entrance and placement tests. Emphasis should be placed upon training those students scoring in the upper fifty per cent of the group on the initial test. No test of significance was reported. On the basis of a questionaire sent to all the colleges in Pennsylvania, Colvin (8) gave some recommendations concerning college developmental reading programs. These recommendations were: "(1) means should be sought to make reading and study instruction available to . . . the better readers . . . , and (2) more evaluative studies should be made to ascertain the effectiveness of reading instruction in general . . ." Dotson (9) describes a method of grouping students for college reading classes. This method is based on reading rate and per cent of comprehension. Four groups were described. Unfortunately, no data is given in order that a comparison of gains can be made. In a study designed to "select the most efficient method for enrolling students who could profit by an 'Improvement of Reading Skills' course," Scott (21) suggested two criteria: "(1) potentiality to gain calculated by the difference shown between present attainment (defined as grade placement on a standardized reading test) and norms for grade attainment in relation to the intelligence quotient medians, and (2) students estimated as having high motivation are enrolled in the course upon recommendation of their adviser." Jones (17) report supported the findings of Scott. Brown (5) found that "degrees had been received by only four of the sixty-seven students who were at or below the second percentile on a reading test." Only one study seemed to support the belief that poor readers receive more benefit from reading classes than good readers (12).

The studies above have failed to give conclusive evidence that either "good" readers or "poor" readers receive a significantly higher gain.

Decile Grouping

Three factors of reading, reading rate, vocabulary, and comprehension, were chosen to be investigated statistically to ascertain if a significant difference exists between the amount of gain made by students who were enrolled in the Central State College developmental reading classes. These students were grouped by pretest percentile scores. All students who ranked in the first 10 percentile on the reading rate subtest of the Iowa Advanced Reading Test comprised the first decile group. Students who ranked in the second decile, third decile, and at similar levels were grouped accordingly. Initial percentile norms were used for grouping purposes only. Raw data was used in statistical analysis. The groups were determined by how they scored on each area under study; that is, 10 decile groups were found for rate of reading. These groups were determined by pretest percentile scores. Ten decile groups were determined by pretest percentile scores made on the comprehension test. Ten decile groups were formed for comprehension. Ten groups were determined by pretest percentile scores made on the vocabulary test.

When the raw scores for each student were obtained from the records kept in the Central State College Reading Clinic, it was possible to code this data and punch into International Business Machine Data Processing cards.

Statistical Comparison

Table 1 contains statistical data of rate of reading for college students. Inspection of Table 1 reveals several interesting observations. If the mean gain scores were plotted on a graph, there would be a general slope from a mean gain of one hundred words at the first decile to a mean gain of fifty-three words at the tenth decile. Decile three has the largest gain. A mean gain of 102 words was made by students in decile three. Students who scored at the first and third deciles on the pretest rate of reading score made nearly the same mean gain and were from four to forty-nine words above the other decile groups. Data from this study failed to support the findings of most of the studies reported.

TABLE 1 RATE OF READING GAINS FOR 10-COLLEGE DECILE GROUPS

Deciles	Pretest Mean Score	Post-test Mean Score	Mean Gain	Pretest S.D.	Post-test S.D.	N
1	142.53	242.10	100	26.91	73.95	229
2	183.92	275.24	91	12.36	65.91	139
3	203.14	305.44	102	12.07	67.24	111
4	217.32	297.98	81	8.66	66.63	50
5	224.97	314.84	90	20.86	72.58	92
6	243.11	338.85	96	13.66	68.80	81
7	257.87	342.11	84	16.96	59.53	61
8	278.26	362.26	84	26.27	52.74	47
9	303.55	388.15	85	19.90	68.40	53
10	350.57	403.74	53	42.45	64.92	43

Table 2 contains statistical data of comprehension scores of college students. A look at Table 2 reveals that mean gains were made by students in the first, second, and third deciles, but losses were made by the other decile groups. Decile one has the largest gain and decile five has the largest loss. It might appear that students in deciles nine and ten were sacrificing comprehension for speed, but the data in Table 1 does not support this assumption.

TABLE 2 COMPREHENSION GAINS FOR 10-COLLEGE DECILE GROUPS

Deciles	Pretest Mean Score	Post-test Mean Score	Mean Gain	Pretest S.D.	Post-test S.D.	N
1	11.14	14.97	+3.83	3.63	4.11	352
2	16.01	18.41	+2.40	.84	4.36	186
3	18.64	19.47	+ .83	.50	4.10	102
4	20.48	19.97	− .51	.53	4.83	71
5	22.44	21.71	− .73	.50	5.21	75
6	24.58	23.02	−1.56	.59	4.15	45
7	26.00	23.11	−2.89	.00	3.48	19
8	27.41	24.87	−2.54	.49	3.76	39
9	29.47	26.47	−3.00	.50	2.83	17
10	31.30	28.40	−2.90	.64	1.69	10

Table 3 contains statistical data of vocabulary scores for college students. Students in decile six had a mean gain of 4.86 words, the largest gain made by any decile group. No general sloping pattern occurred in the vocabulary test. Gains were made by each decile group except deciles eight and ten. A loss of 4.11 words was made by students in decile eight.

TABLE 3 VOCABULARY GAINS FOR 10-COLLEGE DECILE GROUPS

Deciles	Pretest Mean Score	Post-test Mean Score	Mean Gain	Pretest S.D.	Post-test S.D.	N
1	21.88	23.43	+1.55	3.42	10.06	502
2	31.28	31.69	+ .41	3.00	11.43	173
3	36.60	38.72	+2.12	1.29	11.11	102
4	39.74	41.10	+1.36	1.56	10.96	50
5	42.76	44.64	+1.88	.86	12.16	25
6	45.47	50.33	+4.86	.50	5.85	15
7	48.16	48.96	+ .80	.97	12.15	25
8	51.67	47.56	−4.11	.67	18.29	9
9	56.44	59.22	+2.78	1.17	3.19	9
10	60.67	60.50	− .17	2.43	2.81	6

Table 4 contains statistical data of rate of reading for adult students. A pattern similar to the one for college students was found here. The largest gain was made by students scoring in decile one. The second largest mean gain was made by students scoring in the third decile. The gain made in decile three is nearly as large as the one made by those students in the first decile. Adult students, without exception, show greater gains in rate of reading than college students. The gains made by adult students appear to be about 50 per cent higher than gains made by college students.

TABLE 4 RATE OF READING GAINS FOR 10-ADULT DECILE GROUPS

Deciles	Pretest Mean Score	Post-test Mean Score	Mean Gain	Pretest S.D.	Post-test S.D.	N
1	163.03	321.90	158.87	41.77	65.26	29
2	185.32	328.12	142.80	20.65	64.28	34
3	200.04	355.13	155.09	5.05	57.34	23
4	211.80	340.35	128.55	11.69	50.08	20
5	230.38	360.03	129.65	16.51	53.58	37
6	237.63	375.49	141.82	28.75	70.57	35
7	256.34	390.06	133.72	14.90	60.31	32
8	278.00	397.43	119.43	6.73	56.22	37
9	302.43	414.76	112.33	19.20	49.39	42
10	367.65	446.49	78.84	33.98	40.05	63

Table 5 contains statistical data of comprehension scores for adult students. A general pattern was revealed here. Students in decile one, with a mean gain of 7.35, had the greatest gain, while students in decile nine, with a mean loss of 2.62 had the greatest loss. The slope was downward with decile three and decile ten not fitting the general pattern. With college students, decile four showed the first loss. With adult students, decile seven showed the first loss. Again, adult students had higher gains and lower losses.

TABLE 5 COMPREHENSION GAINS FOR 10-ADULT DECILE GROUPS

Deciles	Pretest Mean Score	Post-test Mean Score	Mean Gain	Pretest S.D.	Post-test S.D.	N
1	11.22	18.57	+7.35	2.06	4.21	37
2	16.29	20.29	+4.00	.89	4.88	38
3	18.89	22.00	+3.11	.57	5.38	27
4	20.66	23.93	+3.27	.61	4.58	41
5	22.73	24.48	+1.75	.63	4.37	40
6	24.56	24.83	+ .27	.50	4.69	36
7	26.13	25.13	−1.00	.33	5.15	24
8	27.16	25.29	−1.87	1.22	6.06	31
9	26.69	27.07	−2.62	.77	3.52	54
10	32.00	29.88	−2.12	.82	2.17	24

Table 6 contains statistical data of vocabulary scores for adult students. Students in decile one, with a mean gain of 10.70, made the greatest gain, while students in decile ten, with a loss of .61, were the only ones to show a loss. Adult students in decile six were the only ones to make a gain that was less than the gain made by college students in the same decile group.

TABLE 6 VOCABULARY GAINS FOR 10-ADULT DECILE GROUPS

Deciles	Pretest Mean Score	Post-test Mean Score	Mean Gain	Pretest S.D.	Post-test S.D.	N
1	24.45	35.15	+10.70	3.44	11.27	53
2	31.70	39.09	+ 7.39	1.83	7.13	46
3	36.71	43.51	+ 6.80	1.04	6.65	41
4	40.20	48.17	+ 7.97	.79	7.76	30
5	43.16	48.74	+ 5.58	1.19	8.06	31
6	45.65	50.10	+ 4.45	.65	7.94	20
7	48.47	54.02	+ 5.55	.97	8.24	43
8	52.21	56.61	+ 4.40	.90	5.19	28
9	55.68	59.41	− 3.73	2.74	4.60	34
10	61.46	60.85	− .61	2.17	4.19	26

Conclusions and Recommendations

Even though tests of significance have not been made it is believed that a close scrutiny of the data reported in this study can be of value to the teacher of developmental reading. The greatest gains in rate of reading for both college and adult students were made by students scoring in the first three deciles. Adult students made greater gains than college students. Gains were made in comprehension by college students who scored in the first three deciles and by adult students who scored in the first six deciles. All other comprehension groups showed losses. The greatest gain in vocabulary ability was made by college students who scored in the sixth decile group, while the greatest gain by adult students was scored by students in the first decile. Greater gains in vocabulary and by more decile groups were made by adult students.

The reader should recognize that data in this study represents the results of work done at Central State College. Other studies probably would show different results. The instrument used to measure rate of reading, comprehension and vocabulary did not reach a level high enough to measure many of the students who scored high on the initial test. This could account for some of the apparent lack of larger gains made by students in the upper deciles. It may be that the instructional program as conceived by the instructors at Central State College is not the proper type to effect greater gains by the "better students". A generalization that all students show gains in all areas is not acceptable in this study but most students do show gains in all areas. Objectives for taking the course, not always recognizable, probably is a factor that influences the result obtained. If the reader has contemplated organizing a reading program for college or adult students, he should study closely the topics presented in this publication. Basic ideas presented here can be used as a guide to initiate his reading program.

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DISCUSSION

Dr. Arthur McDonald opened the discussion of Dr. Lee's paper by commenting, I think that as Dr. Lee and some of the rest of us pursue the interesting questions which he has raised, we will find that we will need to interpret the data presented after tests of significance have been made, after the formula such as Davis's formula, which provides for the amount of change due to regression to the mean of specially-selected sub-groups have been applied. In other words, in this specific case of the Iowa rate scores, you have to apply Davis's formula to ascertain what kind of change, if any, is real and how much is due to artifact.

Dr. Albert Harris continued the discussion with, I think in the particular research study that we have just heard that the problem is a little over-simplified; and I would like to point out the degree to which we can generalize from a study like this, which perhaps might indicate ways in which future studies relating to this problem might proceed.

My first question is with regard to the relationship between instructional methods and gains by students of different degrees of initial ability. Unless there is some control, it is perfectly possible that a particular instructional method might be unconsciously biased, or loaded, by the teachers in favor of the poor readers, in terms of the selection of the material to suit a limited degree of ability.

Secondly, there is always the problem of what is the best kind of measuring instrument to use in a situation like this. One has to wonder whether increase in the raw score on a particular standardized test, or on three parts of a particular standardized test, would be the most valid possible measure of the worthwhileness of the program for different groups of students.

One might wonder about the possibility of checking to see whether there were discernible changes in college grades for students in different parts of this population, whether there were, for example, differences in the percent of students being put on probation or being removed from probationary status. These facts would be revealing and significant.

In closing, I have one technical question. In my own experience with the Iowa Reading Test, I have become aware that Part I—the rate and comprehension subtest—is particularly vulnerable to changes in attitude. The student who proceeds very slowly and carefully the first time he takes the test is very often motivated to tackle the rest in a different way upon being retested, and this is an artifact that is extremely difficult to control in this particular test.

Dr. James I. Brown extended Dr. Harris's remarks by commenting, briefly: These are certainly desirable added factors and insightful observations for all of us to consider as we undertake similar evaluations or look over evaluations already made. Dr. Brown at this point invited Miss Miriam Schleich to comment upon the paper.

Dr. Miriam Schleich indicated that she would comment briefly, saying my feeling is that not just the first, second, third, or tenth decile should have developmental reading, but *all* college students.

ALTON L. RAYGOR

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5. Reading Programs of the Future

SO FAR as we know, man is the only animal that attempts to predict and control the future. Possibly this is because man is the only animal with the wit to recognize the truth of Whitehead's statement that it is the very nature of the future to be dangerous. But this aphorism, like so many philosophical truths, must be translated into human actions to be meaningful.

What is it that people do or fail to do that makes the future so frought with danger? Clearly, one reason is that people do not prepare for changes. When new developments in material and methods appear, as inexorably they must, they are dangerous only if we are not ready to use them to achieve our goals. On the other hand, one thing that people do that makes the future potentially dangerous is to wait passively and merely hope that the advances of the future will automatically be worthwhile, just because they are new. The danger lies in the tendency for the new to be novel, but not necessarily worthwhile. The dangerous aspects of the future should not blind us to the possibility of controlling developments and change so that the future can be characterized not as dangerous, but as desirable.

In attempting to understand and to prepare for the future of the reading field, I think our best hope is to examine the ways in which we can control our present states of knowledge. Significant changes in the history of any field are always marked by the points at which we increase our control over the materials and knowledges of the field. So it will be in the future of the reading field. We are concerned about the future so that we can make decisions about it, and change it in the way we feel will be most worthwhile.

I want to argue that the first step in controlling change in the reading field should be the development of a systematic translation of the methods and results of the experimental science of human learning into practical techniques for changing the behavior of readers. What we need is a *science* of behavior change, because it is the very nature of learning that the behavior of an individual must be changed. The problems of the educator are the same as those encountered in the psychological laboratory, except that the stakes are very much higher and the rewards for problem solutions are much greater.

Characteristics of a Science of Reading

The subject matter of a science of reading seems very broad, but it can be seen as being quite limited when it is compared with the subject matter of other scientific fields. Natural science describes objects and predicts events (and relationships between objects and events) by means of numbers and meter readings and deals with the inanimate portions of our universe. The behavioral scientist conducts similar efforts to describe objects and predict events, but he restricts his examination to objects which we call living organisms and events which we call behavior. The science of reading, of course, belongs to the behavioral sciences and is a sub-class of it. Its subject matter is the verbal behavior of a single kind of organism, called the human being. Properly and scientifically approached it also requires the same hard-headed attitudes and approach of the natural sciences, in which references to mental non-observable events, teleological explanations and non-observable relationships are just as much out of place.

It seems clear that the outstanding characteristics of a successful science of reading behavior would be that it is objective, and that its propositions be about behaviors which are replicable and observable. It should, of course, have consistent logical relationships between these propositions. It should lead to changes in the prediction and control of the behavior under observation. This means that the propositions and generalizations which compose the science of reading behavior should be such that the implications of the propositions present live options to the scientist and are not simply ways of stating the same unverifiable generalizations in a variety of terms. The last and possibly the most important characteristic of a successful behavior theory is that its results and principles are generalizable to many different learning situations.

Current State of Reading "Science"

A critical look at the current state of reading science makes it very clear that there is a distinct lack of direct observation and control of events in anything other than the trivial sense. We know very little about what the organism is doing in the reading process. This is possibly because our language is almost completely inadequate for a description of the objective event called reading. We use words which are best described as metaphysical terms. If we look at the typical list of important skills or abilities as seen under the heading of reading, we find such statements as "ability to read in thought units, ability to select and understand the main idea, ability to retain ideas and ability to acquire word meanings". Unfortunately, the key terms in these lists of critical skills are terms which are not or cannot be defined conveniently in behavioral terms. Precisely what is the organism doing when it is engaged in "reading in thought units" or "acquiring word meanings" or "understanding main ideas" or "retaining ideas"? Some of these terms can be made meaningful if we translate them into behavioral terms. For example, the "ability to read in thought units" can be translated into something like, "textual behavior involving chains of associative response." "Ability to acquire word meanings" translates into something like, "organisms develop response repertoires which can be predicted to occur when the subject is given certain visual, non-auditory, verbal stimuli " "Ability to retain ideas" can be translated into "some responses to stimuli tend not to extinguish."

It seems clear that one of the primary sources of confusion in reading is the tendency to substitute names of things for events. The whole notion of thought units and word meanings and main ideas as things rather than events are good examples of explanatory fictions which provide us meaningless ways of talking about the behavior without really describing it.

In a very trenchant footnote in *Verbal Behavior,* B. F. Skinner (5) makes the statement that "Reading is not an ability or a capacity, but a tendency. When we say that a person is '*able* to read' we mean that he *will* behave in certain ways under suitable circumstances involving a verbal, non-auditory stimulus." This footnote summarizes, I believe, one of our major problems. We talk about abilities, vocabularies, word-meanings, main ideas, thought units, and other explanatory fictions as though they were things rather than events. Our use of such terms obscures the fact that reading behavior is an observable class of behavior — a set of responses to stimuli which may be seen to occur under certain conditions. A science of reading behavior will be an attempt to develop a systematic body of knowledge which will enable us to predict and control this type of verbal event.

The position I am taking here will be recognized by many as being the same as that of behaviorism, which has been the most influential position in psychology for the past fifty years or more. In fact, it was just fifty years ago, in 1913, that J. B. Watson (7) introduced to American psychology the objective study of behavior and began the long process of changing the obscure speculations of his colleagues into a science of behavior. It is disheartening to note that the same scientific spirit has not produced a science of reading behavior and that the processes involved in reading are almost as undisclosed as they were at the turn of the century. Unlike some early behaviorists, I am not proposing that we deny the existence of ideas, meanings, and other non-observable or fuzzy terms. I am simply suggesting that we abandon the use of them as a form of explanation, because they tend to keep us from studying events, the relationships between events and the contingencies necessary to produce events.

Possibly my point will be clearer if we consider the difference between various meanings for the word "meaning." When we speak of vocabulary development we often speak of teaching the primary and other meanings that words have. This, of course, implies that the word is a thing, that it has ownership capabilities, and that one of these meanings is somehow more important than another. If we take a more objective view of vocabulary, we will restrict this term "meaning" so that it refers to the relationship between a verbal stimulus and the resultant behavior of the organism, both of which are potentially observable, replicable, and reportable. We can talk about the frequency of the presentation of the stimulus in a language; we can talk about the variety of responses observed on the part of an organism; and we can about the context in which the event occurs. We then have to be careful how we use the word "context." I would propose to use the word context to refer to the totality of conditions influencing a behavioral event.

Behavioral Data in Reading

If we take this behavioristic point of view seriously, we have to stop and consider what kinds of data we have available to us. We have an organism sitting or standing with a book in his hand and its eyes moving. At first glance it seems that this is all of the observable data we have. Actually, we have several methods of studying the behavior further while remaining with observables. One of these is to examine the organism more closely using techniques borrowed from the physiological laboratory.

Some of this research has been done and is exemplified by the excellent studies by Miles Tinker and others on the behavior of the eyes.

Another type of research in which we observe activities of the organism which are *not* visible to the naked eye uses records of electromyographic studies of the activity of the sub-vocal speech mechanisms. Unfortunately, this speech technique is not yet developed to the point where it will enable us to determine to any great extent whether or not the patterns of sub-vocal speech of one organism are similar to those of another organism while reading the same material.

A third method of gathering objective data from readers is to use the technique of verbal association. The behavioristic approach to reading posits a chain of associated, sub-vocal responses, occasioned by the printed stimuli. By appropriate instructions and practice, readers can be trained to produce these responses overtly so that they can be recorded and analyzed. This methodology, well established by early studies of word association to single words, has not yet been widely utilized as a data source for reading research.

A fourth method of inquiry which shows great promise in the reading field is one which has become very popular in the psychological learning laboratory. I speak here of research on the learning situation in which statistical controls are replaced by experimental controls on a single organism at a time, with the possibility of direct observation of the results of a single instructional change. This is the kind of research which has produced our knowledge of operant conditioning and the almost unbelievable possibilities of changes in behavior over short periods.

Behavior Research in Reading

So far I have merely presented what I consider to be our best hope for bringing about a desirable future in the field of reading. But there is another property of science, or more correctly of scientists, which we in the reading field must adopt. That is the attitude toward the objects and events of our field which makes it easier to carry out the kind of research which will bring about a desirable future. This attitude, like any personal, metaphysical event, is almost impossible to denote. But I can connote what I mean by very briefly describing a few fruitful research studies. The men who reported them are not necessarily identified with reading, although they are studying the reading process in a very worthwhile way. I mention them in part because of the potential impact of their results, in part because they also serve to exemplify the work which results from a hard-headed, behavior-oriented attitude about reading.

Arthur Staatz, and his group at Tempe (6), James Evans, in Albuquerque (1), Wells Hively, in Cambridge (2), and O. K. Moore, at Yale (3) have all had very marked success teaching pre-school children to read by utilizing control of the stimulus-response contingencies in order to produce operant conditioning of responses to both auditory and non-auditory verbal stimuli. These attempts at operant conditioning of reading responses at an early level are extremely valuable to us for two reasons: one is that they may produce reading behavior at an earlier age so that when we get the reader at the college level he will have had a wider variety and a longer history of reading responses. The second and more important reason that they are of interest to us is that they point the way to the type of experimental study which is probably going to give us the most information about the reading process.

One of the striking effects of operant conditioning, done with certain arrangements of contingencies into schedules, is the greatly increased ability to control what we have been calling motivation. It shows up in the psychological study of behavior in extinction curves. This author has recently had an experience which brings home the power of these changes in reinforcement schedules. We had students reading some material from the SRA *Reading for Understanding Laboratory* on a lever-operated device which produced material in a window whenever the reader pulled the lever. After a period of constant appearance of material upon the pulling of the lever, we introduced a situation in which lever-pulls did *not* always produce reading material. Material appeared in the window on a fixed ratio schedule or on a variable ratio schedule. These reinforcement schedules have been shown to produce changes in rate of response on the part of other organisms, and we were interested in discovering whether or not we would get similar changes in rate of response and in resistance to extinction (continuance of the behavior.) We find that after a period of continued reading material appearance, a fixed ratio schedule (with material appearing every fifth lever-pull) produced a higher rate of response and instead of two or three lever pulls at the end of the material, we had subjects pull the lever forty-five times with nothing appearing in the window of the device. We transferred them to a variable ratio schedule which has produced marked resistance to extinction in other organisms, and immediately discovered that humans exhibit behaviors very similar to those of rats, pigeons, and chimpanzees. We used a variable ratio schedule in which the average number of lever pulls per material appearance was twelve. We had subjects at the end of the last appearance of a one-hundred word segment of reading material pulling the lever as much as 150 times with blank paper appearing in the window. Apparently they gave up only when their right arm was exhausted from all the lever pulling. I will not go into the implications of this research at this time except to indicate that we have apparently found a way of greatly influencing the tendency of subjects to continue on a reading task. The implications of this for "motivation" research is obvious.

Another example of operant conditioning techniques in the control of reading behavior of college students is a current project on the part of the writer in which subjects are allowed to read material presented on a device in which the stimuli are made to appear at a rate which is under control of the reader. The material is presented in one-hundred word segments and the time necessary to read the one-hundred word segment is recorded on a cumulative response recorder. Whenever the reader reads a segment of the material more rapidly than he read the immediately preceding one, a pale green light shows through the page he is reading. The student is instructed to read the material in a way that will maximize the frequency with which the material is illuminated from beneath by the green light. This is, of course, a direct application of the notion of arranging contingencies so that a particular change in behavior will take place and then reinforcing that change in behavior by immediately indicating to the subject that his response has been the desired one. We hope to condition not only higher rates, but to develop the type of discriminations and behaviors which we call rate flexibility.

The efforts of Professor Downing and others at the University of London in the development of the new Augmented Roman Alphabet (now called the Initial Teaching Alphabet) may be interpreted as a real effort to influence the reader's stimulus-response situation in a significant way. While this research does not stem from a consideration of the reading process from a behavioristic point of view, it none the less represents an interesting and an apparently successful effort to reduce the number of stimuli to be discriminated on the part of the early reader. The striking success of this method is, I think, due to the fact that the learner is presented with discriminative stimuli which are tremendously reduced in number and is giving phonemic responses to forty-three visual stimuli rather than to a total of some two to three thousand as in traditional English orthography. This represents a great increase in stimulus control in the learning situation which has great promise in the teaching of reading. The work flows from the same general attitude toward reading that is proposed in this paper.

The examples I have given will serve to illustrate the sort of research which proceeds from the techniques and concepts which are current in the psychological study of learning. I would like to turn now to some speculations about the nature of the reading process and our future methods of producing it. When we look at reading from the point of view of conditioning, the classical distinction between respondent behavior and operant behavior has many implications for a science of reading. In *respondent* conditioning, the unconditioned stimulus, (one which has a high probability of eliciting a particular response), is paired with a neutral stimulus, after which the neutral stimulus elicits the response which was previously elicited by the unconditioned stimulus. In *operant* conditioning one does not present the stimulus. Instead, one observes the on-going behavior of the organism. When the member of the selected response class appears, the reinforcing operation is performed immediately thereafter, thus increasing the probability of occurrance of that response class in the future.

Taking this distinction between respondent and operant conditioning, one can engage in some interesting speculations about the nature of acquisition of the repertoire of responses we call vocabulary. Much has been written about the vocabulary of understanding as opposed to the vocabulary of use. When the concomitant behaviors are examined, it seems clear that the elicitation of an appropriate response by a printed verbal symbol is a piece of respondent behavior, while the emission of a response on the part of the organism in conversation is an example of operant behavior. The reason that this distinction is an interesting one for reading specialists is that the procedures for establishing these two classes of behavior are quite different, and there is, to my knowledge, no recognition of this distinction in any discussion of training procedures in vocabulary development. The enlargement of a recognition vocabulary would seem to be a process in which a neutral stimulus takes on the probability of producing the response we call meaning when it is paired with a known word or with a context which already elicits the response (meaning). On the other hand, the nature of the reinforcement process in the operant conditioning of the vocabulary of use is quite different and the reinforcers used, if they are to be effective, would be primarily social reinforcers. I suggest this because the responses which we call the vocabulary of use more often appear in social interactions.

The distinction between respondent behavior and operant behavior presents interesting possibilities for the interpretation of reading behavior in general. This author is more and more inclined to think that in the future we will regard reading as consisting of these two kinds of behavior and some of the distinctions that we have made in the past about levels of reading skills seem to become clearer when we look at them from this point of view. The so-called "lower order" reading skills, by which we mean, "getting the literal meaning of the author," seems to be essentially a respondent process. The reader is duplicating the response behavior of the author and the extent to which he will, in fact, get the message designed to be conveyed by the author will depend in large measure upon the response history of the reader. If he has responses which will be elicited by the stimuli which are similar to the responses on the part of the author, then his behavior will, of course, resemble that of the author and we will say that he is getting the "meaning" from the printed page. The good reader does more, however, than simply duplicate the response behavior of the author. He engages in some operant behavior of his own, which again is influenced by his particular response history. When he engages in behavior which we have called evaluation, drawing conclusions or implications, recognizing tone and intent, and other behaviors which we call "higher-level" reading skills, it seems very clear that he is bringing into play operant behavior which is a manifestation of his own peculiar verbal repertoire, which may not match that of the author. He is clearly doing things which the author did not do as he verbalized his way through the material in writing it.

It is much easier to describe in specific behavioral terms the process by which the reader reproduces the response behavior of the writer than it is to specify what is going on when the reader produces the operant responses that we call higher order comprehension skills. An analysis of these operants would be, in the opinion of this writer, one of the most useful enterprises for the future development of the science of reading. We know that meaning is shaped by a process of discrimination and generalization, and that operant behavior or skills as we call it, undergoes a differentiation process by means of selective reinforcement. However, describing and predicting the precise contingencies which elicit the behavior we are interested in is an extremely difficult process.

It is interesting to note that Skinner, in his book, *Verbal Behavior* (5), spends almost all of his time discussing oral reading, speech behavior, and listening behavior, and makes almost no attempt at a description and explanation of silent reading. My own feeling is that the reason for this omission was not that Skinner was not interested in silent reading, but that he found the particular behaviors involved too difficult to describe and explain, and avoided the issue. The process of describing and explaining the particular class of verbal behavior we call reading comprehension will have to be undertaken if we are to develop a future science of reading and a technology of behavior change to go with it.

Summary

To summarize, we need a science of reading behavior and a technology for the development of behavior change. The current state of knowledge in reading does not provide the necessary understanding of the important events with which we are concerned. Our language has been extremely imprecise in that it lacks terms for describing the kind of events which make up the behavior we are studying. In addition to developing a more precise language we need to develop new techniques. Adoption of the techniques of the psychological laboratory will produce new data and will allow the meaningful and effective analysis of old data. The future of reading at all levels depends on our ability to develop the requisite technology of behavior control.

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DISCUSSION

Dr. Miriam Schleich opened the discussion of Dr. Raygor's paper by saying: I must say that I was impressed and somewhat depressed by this presentation. I found it very stimulating, and at the same time, I was worried that I was going to be producing a computer rather than a mature reader, and I wondered a bit about this matter of cleaning up the language. I wonder, if for some of us, it was not a matter of further muddying it rather than a cleaning up. I think it certainly requires that everybody has a background in behavioral psychology. By doing this you can eliminate a lot of good teachers of reading—or is this simply for research?

I wonder, however, what this attitude will do to the future of reading. In science, for example, what would have happened to Einstein if he were going to be dealing only with that which is strictly observable? I am thinking, of course, of science as being based in mathematics which is a purely metaphysical discipline. How do we quantify, for example, our understanding of the Gettysburg Address?

Dr. Raygor reacted by saying: I would like to speak to the point about producing computers rather than readers, and I suppose I did not say loudly enough earlier that you do not have to think of your subjects as machines in order to try to describe their behavior in ways in which we communicate with other people.

My purpose is not to muddy the water, although I may have done that. My purpose really is to attempt to develop a language upon which we can in fact all agree, so that when we start talking about reading we know what the other person means.

Dr. Arthur McDonald contributed to the discussion by adding: I think Dr. Raygor has oversimplified the matter. I would like to see tested in an adequate manner the thesis that culture is determined by language and in part language is determined by culture. Let me give you an example of what I mean. The Indo-European languages are basically cause and effect languages. The pattern is similar to this: something happens which produces a cause, and this is what he is talking on. We may or may not choose to talk metaphysically, but this is it. The non-Indo-European languages in general do not have this type of cause-effect. Certain Indo-European languages are disjunctive and other Indo-European languages are conjunctive. Language is nothing but a code, and the extent to which a reader knows the code determines the behavior of the individual. This is an area in which we need research desperately. It is so far from a childish game of writing the word on the front of the card and the meaning on the back of the card, and thus learning a thousand words, that the ideas here suggested are a distinct contribution to linguistics and reading.

Dr. Raygor replied: I agree with Dr. McDonald that culture shapes behavior, and behavior shapes culture. This is precisely why a given visual stimulus in this country will produce one response and the same visual stimulus somewhere else will not produce the same response. It may produce some sort of emotional response, but it will not produce the kind of connotative-denotative response we call meaning.

Dr. Brown, who chaired the session, interjected: In line with this you may have come across the book, *The Silent Language,* by Hall. I remember one anecdote, at the moment, which Hall relates. He was talking in a foreign country and through his translator asked a man how much yield he expected to get from his planting. The man immediately became quite angry because in his culture only God would know what kind of yield he would get and to ask a human being this question was out of the cultural pattern and was considered as an affront to the deity, arousing emotional overtones.

Dr. Albert Harris was the next discussant and reacted in the following manner: I found this a most stimulating and provocative paper. Like the other discussants, my reactions to it are somewhat mixed and I suspect that if I were to reread it three or four more times my response would continue to change.

First of all, I think the plea that we should try to find a scientific basis for reading instruction is one with which I am wholeheartedly in agreement. But I am not at all sure that behaviorism is going to be the best answer to this question.

But I think that any approach which is as fruitful in terms of stimulating research to find out things that seem worth finding out, and which produces as many practical consequences in a short period of time as this has, is certainly worthy of deep respect.

Secondly, I also thoroughly agree with the plea for careful critical examination of the terminology we use. On the other hand, I do not believe that we will ultimately be satisfied with a vocabulary in which everything can be defined in operational terms.

It seems to me that our criterion for proper vocabulary is not necessarily operationalism, but complete freedom from ambiguity, and it bears a very marked real distinction between these two.

Now, the third point that I am concerned with is the fact that historically behaviorism has proven both extremely productive and extremely inhibitive. When I was a beginning psychology student, the major method in psychological research, up to the advent of behaviorism, had been what was called introspection. I'm very much interested in the proposal by Dr. Raygor that one of the four techniques he suggests is verbal association which I take to be a verbal interpretation of what we used to call "avistic" interpretation, or what we used to call introspection.

Dr. Raygor replied to Dr. Harris: I think all of the points that Professor Harris has made are extremely well taken and I want to emphasize that I do not think that any explanation or description of human behavior strictly in stimulus response terms exhausts the possibilities—exhausts the explanation or description of the universe.

I think, however, that the point of view which I have described can do for us what it did for psychology—and this was a tremendous disciplinary revolution. We did have, in fact, the same sort of extremely fuzzy psychological language; and behaviorism, as a methodology, not as a metaphysical system, but as a *methodology,* helped the psychologists to escape from a situation in which the water was extremely muddy. And in reading we haven't completely "unmuddied" the water.

Dr. Brown asked, As long as you have this crystal ball highly polished, could you take another look in it and say what—at the classroom level—what should this mean to a teacher who wants to teach what we call, say, word attack, what does this mean we do in a different way, here, with behavioral science to the front.

Dr. Raygor replied to the foregoing comment: What you are really asking, I think, is for me to specify the terminal behavior we want to produce and, further, to specify the particular steps in the presentation of stimuli in order to make this behavior take place.

I can't do that. My crystal ball is not very polished and the inside of it is not that clear. I think, however, we can say about this matter that we have seen within the last five years tremendous advances in our ability to spell out and to produce responses on the part of organisms other than ourselves.

But I think we have people who can do this and they are doing it. People are now producing, for example, programmed instructional materials for the early teaching of phonetic responses. One of the persons that I referred to, James Evans at Teaching Machines, Inc., is precisely doing such a study, and he is in fact examining what you have to do in order to have a child learn phonics, as we would say, and I think this will be done.

This is what I see in the future.

Esther J. McConihe

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6. Reading Instruction for Business and Industry

Looking Backward

As FAR back as 1931 Walter Pitkin (8) wrote a very trenchant piece for young people regarding how they should read. About 1938 Guy Buswell (3) did a study at the University of Chicago and titled the ensuing publication, *How Adults Read.* Norman Lewis (6) published his first book, *How To Read Better and Faster,* in 1944. The Renshaw article regarding the perceptual aspects of reading for adults with special attention to his work with the Navy during World War II was published in the *Saturday Evening Post* after the War.

These publications may be considered the basis for the wave of interest in reading skill that business and industry began to evince in the early 1950's. The publications themselves were not aimed primarily at this segment of the population. Their concern was the adult in general; they addressed themselves to the individual adult who felt the need to improve his reading ability.

In the late 1940's after the war when management was free to turn its attention to personal relations and the personnel officer was mapping his strategy for management training, it was almost a foregone conclusion that sooner or later his—the management training director's—eyes would fall on a) Buswell's Reading Rate Accelerator, b) Lewis' book, and c) Renshaw's tachistoscope as used in his work with plane spotters. Being a rapid, flexible reader himself, the management training director was quick to seize upon the idea of improving the reading of management personnel as a means of improving his effectiveness.

It is a moot question whether the idea would have "caught on" as it did, had not the rate accelerators and the tachistoscopic trainers been developed along production lines. Here were *machines*. This was "real"! Now you could practice ten minutes a day and measure "X" number of units of improvement! You could set a man up to a machine and *watch* him read faster. Here was "demonstrable" evidence that the trainee was improving. Financial gain accruing to the company could be estimated and the results presented to a budget committee. With this "evidence" in hand it was not difficult to "sell" the reading program to management.

Nor is this situation to be too severely criticized, naive as it may seem to the knowledgeable specialist in reading. To be able to read twice as fast as one presently could was indeed an enticing prospect for the business executive whose "required reading" grew heavier by the day. And if one examines the nature of the material the industrial reader is required to cover, it develops in a large measure to be the so-called "easy, rapid reading" so familiar to those of us who have been fed on rate quotations. Therefore, the appeal was great and the promise of improvement often not too far from the actual facts of the case thanks to the happy circumstance of the material fitting the method.

Rationale

It appears to this writer that much misunderstanding and wasted energy, even quackery, could have been eliminated from the field of reading for industry if the rationale had been determined in the very beginning. While most persons working in the area of adult reading training are aware that such training is a different problem from the training of children and young students, it seems as though the difference between reading for this class of adults and reading improvement for the adult in general was not for some time clearly differentiated.

Let us then proceed to establish this distinction.

"Reading Improvement," when applied to the able adult, invariably means improvement in flexibility of rate. There is little question that the able adult in business and industry is a good reader. This means that he is able to reason, that he is able to use the English language effectively in writing and to understand it under normal circumstances when it is printed, and that he has the vocabulary and language skills to handle the medium. It also means that he has had years of experience in inferential reading and in reading to draw conclusions. What then does he lack? With few exceptions he lacks the ability to use these skills effectively. He lacks the ability to approach his reading with the authority with which he approaches his other business tacks.

This group of adults, it is apparent, is to be distinguished from "adults in general." This is a highly selective group and the function and purpose of their training is limited. They may have suppressed desires, but I question whether they have hopes of "developing interests through reading that will give vigor and meaning to their otherwise drab and lonely lives," as George Schick (10) opines is true for some adults in general. Of the twelve motives that Schramm (11) gives for adults to read, we can probably accept only four as pertaining to this group. These motives are: as a tool for daily living, as a means of self-improvement, for scanning the horizon and for interpreting current issues. For this group the definition of reading is most nearly "Reading is a tool for improving effective living." And many of them are thinking, "especially effectiveness on the job."

Hence, reading training for the able adult in business and industry confines itself to the development of habits which are more effective than the habits which he has developed over the years. It does not mean that he must learn how to derive meaning. This he already knows. For the instructor it becomes, rather, a matter of changing habits than of teaching skills.

For the reasoning adult, developing new habits is possible only if the adult is accepting of the need for these habits. As Tuckey (15) so earnestly states,

> "My sense of the importance of providing clear explanations of the aims and methods of Developmental Reading is founded upon this belief that each student needs to accept the training procedures and the change in him that they are designed to bring about. He needs, I think, to feel that he is subjecting himself to these procedures, not that he is being subjected to them by the teacher's classroom authority."

Therefore, it becomes necessary for training in this area that the adult be made aware of the nature of his problem and the means to be employed in correcting it. He must be made aware kinesthetically that reading is a thinking process, that it is controlled by the central nervous system, that it is related to reasoning. Furthermore, he must understand that he alone determines what is to be derived from the reading, hence the rate and purpose for which he is to read. Once this rationale has been understood and accepted by the reader, he is ready for techniques.

The emphasis on the concept of speed which has troubled so many of us in recent years is not necessarily an undue emphasis for business and professional reading programs for it is largely in the matter of speed of reading that the able adults are lacking. Their problem has been that they use low gear for all conditions, whether it be hills, straightaway, or heavy traffic. The function of training is to teach them to use their power with more discrimination. Until the equivalent of the automatic shift for readers is discovered, the reading specialist will have to teach them to shift gears.

In 1961 at the National Reading Conference, Heilman (5) decried the lack of emphasis in college and adult programs on critical reading skills. On the face of it this would seem to apply to reading training for business and industry as well, for many of them emphasize the factor of speed and in reality pay only lip service to comprehension. Where flexibility is really taught, however, it includes critical reading. In addition, as we shall emphasize later in this paper, the material at hand is of sufficient depth and complexibility of organization, it is going to require the reader to draw conclusions, implications, and inferences as a part of the total reading picture process. This is critical reading.

It is possible, I believe, to include under the idea of flexibility most of what is done in sound reading training porgrams for business and industry. Reading with a purpose; allowing the author's and the reader's purpose, as well as the difficulty of the material and the background of the reader, to determine the rate to be used; changing this rate within the selection itself; reading to get the answers to questions; skimming that which is not essential to the purpose at hand; becoming cognizance of the organization of a piece of writing as the writer evolves it; using transitional words, bold face, and other devices to determine the organization of the writing—all of these skills may be subsumed under developing flexibility.

As compared with the complex comprehension and vocabulary skills necessary to teach reading to elementary, junior high school, and senior high school students, this is indeed a very small area of the total reading process. This writer (7) has always insisted upon this distinction in the "coverage" necessary for able adult programs. Because I believe this so firmly, I also believe that it is possible to "teach" reading to the able adult in a much shorter period of time then one would normally expect.

However, there are deterrent factors operating with adults, especially those who have achieved a marked degree of status in their professions and on their jobs. Stevens (13) comments that such readers have a strong fear of failure, are less ready to experiment than are more immature younger people and that they are at the same time highly motivated and critical of any evidence of inadequacy in the instructor. It is undoubtedly true that these characteristics made the teaching of this group much more a matter of group leadership and change of attitude than instruction in skills.

One final note of warning comes from Heilman (5) again who comments with wit on the rapid reading fad now just beginning to taper off. He says:

> ". . . the reading process should not be interpreted as an inflexible set of habits. The efficient reader applies both intelligence and a wide array of skills to his reading. He has learned to decide when he *must* read slowly and when he *may* read rapidly—and he has developed the ability to do the latter."

Program Organization and Procedures

Examination of a wide range of industrial reading training programs reveals an easily identified pattern of organization and procedure. In the first place, the groups are usually small, ordinarily not more than twenty-five persons. Almost invariably they have themselves chosen to take the training. This matter of volunteering relates to the motivation of the trainee. Reading is so personal a matter that there is a strong relationship between motivation and conditions of training. One manifestation of this is expressed in this need to be the initiator of enrollment in a program. A superior may assign a man to a course in how to supervise or how to get along with fellow employers but to be *assigned* to take a reading course appears to be tantamount to telling a man he's inferior. When, in rare cases, an unwary supervisor does this, the instructor has a ready-made obstructionist on his hands.

In ninety per cent of the cases the students are men. This is an artifact of employment, I suggest, not a sex-derived cause. The enrollees are persons for whom reading is a very important part of their success. They come from the professions, management personnel, employees of large companies. When an independent, that is a self-employed person, comes for training, he is usually in a field such as insurance where most of the activity relates to the printed word. Bursk (2), reporting on reading habits of executives in 1957, indicated that top business executives read eight to nine publications for business purposes: three to four magazines, one to two newspapers, one news service, two to three trade catalogues. Whether a man reads all this or not, he feels obliged to do so and when he is unable to keep up, he often becomes harried by feelings of guilt and inadequacy. A "speed reading" course that will enable him to "read as fast as the President" sounds like the answer to his problem so he calls the nearest university, answers the ad in the newspaper, returns the coupon that came in the mail, or, if the company is big enough, seeks out the management training director and demands that he get busy and form a reading group. The choices just listed represent the various methods by which a man or woman can get training.

In these latter situations the program is sometimes developed with the university specialist in a consulting capacity. The specialist sets up a course to fit company needs and conducts the program for a limited period of time. Then personnel from the training department take over. These training directors have often taken a course themselves. They are usually men with experience in adult teaching or in conducting management-training conferences.

Programs vary in length from twelve to thirty-six hours, the mean length being about twenty. Meetings are held from once to five times a week and are from one to two hours in length. An average course is likely to meet twice a week in hour and a half sessions and continue for eight weeks. Industry has discovered that attrition is greater the longer the program continues so every effort is made to condense the training into the shortest possible period of time.

And what of the content itself now that we have the course organized? Here we have a well-known pattern. Mechanical devices are the trademark of the industrial-business program. Pacers, films, and tachistoscopes in varying forms are almost invariably in evidence. The more sophisticated program leaders report that these devices are used more as "motivators" than as essential ingredients to reading improvement. Nonetheless, the machines are there and they are used. Programs still exist in which mechanical devices constitute the entire program. There is little discussion of what these devices are intended to do, what changes in habit are expected to occur as a result of their use, or why these changes are necessary.

This is not as common as it was during the '50's. Variations from this procedure have developed. There is greater emphasis on explanations, lectures and discussions. Many specialists are on record as saying that participants must be made more aware of what constitutes the real nature of the complexity known as reading (5), (11), (15). In order to change the habits of the adult reader, it is necessary to help him understand the purpose of the new habits. The specialist uses discussion and demonstration to do this. When such methods are employed, the use of machines is reduced and in some cases eliminated entirely. The only mechanical devices used in a few programs are stop watches and ball-point pens.

Sometimes variation in programs shows itself in the nature of the reading matter used. Some programs confine themselves to a limited range of subject matter which is inclined to superficiality. Neither ideas, vocabulary or organization of material are challenging. This is the so-called "easy, interesting reading" that is grist for the "speed-reading" mills. Short paragraphs and condensed articles which have been squeezed dry of all the life and complexity they once contained do little to develop the reader's real skill in reading. This may very well account for the loss in skill which sometimes shows up on follow-up testing.

The final consideration is evaluation. We have not yet given any attention to the diagnostic procedures used in these programs. Let us consider them in relation to evaluation.

We first observe that as a general practice only the most cursory diagnosis is given. Usually a questionnaire to acquire some facts about the reader's background and purpose, sometimes followed by one of three or four standardized tests—this constitutes the diagnosis. An occasional program will administer an intelligence test; even more rarely a personality test. A rate check, often based on a locally developed material, is added to this battery. Upon conclusion of the program the rate check is frequently the only test to be administered.

It is a matter of concern to reading specialists that no more thorough evaluation practices have been evolved. If, as was stated under "Rationale," the real function of the training is to develop flexibility, it would seem logical to evolve some means to test for this skill. Spache and McDonald have such instruments but results of their effectiveness have not to my knowledge been published. This is to be deplored.

Trends

Let us begin with the least significant of the four trends we may discern as we peer into our crystal ball trying to ascertain what the future will be.

A lessening of the frenetic rush to get into a program is becoming noticeable. That reading should have attracted these people seeking miracles can be attribued partly to the undesirable publicity given to some of the more spectacular claims made by individuals and groups. As early as 1955 Sommerfeld (12) expressed fears that this would happen. He said:

> Concern is also expressed about the rash of articles appearing in the current popular periodicals. The laymen reads and is influenced by, this popular

literature, much of which, widely disseminated, is not psychologically sound.

There is the fear that reading programs at the college and adult levels may be entering—if not already in—a situation which might be likened to a fad stage.

This is probably the major contributing cause of the tendency toward decline in the number of programs. But it should also be noted that industry follows a pattern of shift in emphasis in its personnel training. In the period since World War II there have been two or three such shifts so it was to be expected that the emphasis on reading would be followed by a leveling-off period. Not to be ignored also is the fact that the training department is among the first to be cut in a period of reduced profit. In some industries training programs have been cut and the reading program shares in this reduction.

We do not anticipate the present decrease to continue downward and our judgment is based on the continuing demands made on executives to read extensively. As Bursk (2) observed, there has been a rise in professionalism among business groups. The flow of words increases daily; the demands grow. There is every indication that more and more readers will have to become more and more discriminating about their reading. It is very likely that many of them will require training to do this.

A second trend, and one that specialists have been instrumental in bringing about, is the shifting of emphasis from speed to effectiveness. It was with some amused gratification that I noted Acker (1) report that among the government agency programs there exists the opinion that these programs should offer vocabulary and study habits training! A trend toward greater effectiveness can be noted in the reduced use of mechanical equipment.

I should like to suggest, parenthetically, that we are in danger of "throwing out the baby with the bath" if we fail to see the drill value in some of these devices and to make fitting use of them. However, the infant may be healthier than I think and his lusty protests against abandonment may save his life.

A third trend, feeble but worthy of nourishing, is toward more intensive diagnosis. We know little about the neurology involved and much of what we know about the visual perception is fractionated. But this does not negate the importance of knowing as much as we can learn about each person both as a person and as a reader.

Unfortunately, professional and executive men and women are unwilling to give much time to testing. As I have noted elsewhere (7) they want a complete diagnosis in twenty-seven minutes—or less. In spite of this we are beginning to observe efforts to learn more about the habits, needs and reading status of trainees. With better diagnosis should come improved techniques.

This trend to more concern for diagnosis should give the reading specialist cause for concern. If reading specialists are becoming more interested in better diagnosis of the executives and professional men and women with whom they are working, they are going to require better tools for learning what they want to know. Even more significant is the fact that they will need to use more accurate and meaningful research methods than we in industrial reading have thus far used.

A fourth trend summarizes the entire topic. It is a growing emphasis on producing, not a senator who "reads 20,000 words a minute" but a mature, effective *adult* reader. It is because of this trend that the future for all adult reading training looks like a healthy, growing enterprise. I believe that the public's growing disillusionment with "speed reading" is an indication of this trend. Now we in reading must make clear what an adult really wants when he is asking to have his reading speeded up. As Schick (11) puts it

> Hence reading specialists have a continuing and paramount obligation to educate and inform the American public about the little-known fact that improvement in reading requires much more than a stopwatch and a piece of printed material. So long as just one of our colleagues in another field of specialization or a single outspoken citizen has the habit of asking, "Why should *anybody* want to read faster?" or "Why can't everyone learn to read well enough by the time he leaves the seventh grade?"—just that long shall reading specialists have to continue to display forthrightness and endless patience coupled with energy in explanation of the complexities of developing reading skills to the utmost.

In the scramble to furnish the training demanded by a public deluged with printed matter we have been more concerned with "Do this," "Do that" than with explanations of causes and reasons for methods. Until we show that "eyeball calisthenics" is a poor substitute for seeking the organization of the author's thought, we aren't really developing effective readers. Bursk (2) suggests that executives are going to be forced to be selective in their reading because the reading load is going to increase, not diminish. If these same executives are also selective in their methods of reading, they will begin to be really effective. This is the task of the reading specialist.

In 1958 Fulker (4) stated at the International Reading Association

Conference that some of the government-sponsored reading improvement programs:

> . . . have become in effect communications improvement and employee development programs in function if not in name . . .
>
> . . . The specific objectives of this voluntary course are to help each enrollee improve his reading efficiency and abilities to the fullest extent possible. It is designed to help him become more selective and discriminating; more systematic; more flexible; more purposeful; more critical; more rapid; and a more mature reader.
>
> Of equal or greater importance, however, is the fact that it is designed to help each enrollee become more aware of the problems involved in interpersonal communications, especially those relating to individual differences in humans. It is designed to stimulate him toward developing his vocabulary; toward taking better care of his vision; toward more reading and broader reading; toward better writing, better speaking and better listening; toward conducting better meetings and conferences; and, toward better management of his time and work.

I admit this sounds almost grandiose in scope. I am sure it is not realized in actual fact. But the circumstance of its having been said in sober fact and of its having been set as an objective indicates the extent to which some reading specialists are beginning to dedicate themselves to making these training programs genuine tools for the personal growth of the trainee.

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DISCUSSION

Dr. Miriam Schleigh opened the discussion of Dr. McConihe's paper by remarking: I was interested, too, that actually back in 1929, Walter Pitkin wrote a book called *The Art of Rapid Reading,* which was actually a result of his disillusionment with the reading of advertising executives, with whom he was working as a consultant, many of whom couldn't read his reports.

And 'way back at this time, he distinguished three types of purposes for reading and came to much the same conclusion that we have drawn here today. He said that we read first to learn, and then we read for recreation; and finally we read in order to keep up with current events in our own field, in our area, and he said that the purpose of reading determines the art of reading.

So the big step we seem to have taken is in our goal of not just making more efficient readers of businessmen but going beyond this, to changing their whole perspectives and doing something for the persons themselves as persons.

Dr. Arthur McDonald continued the discussion with these comments: I think Dr. McConihe knows my position on changing rate. Like her, I have written several articles which nobody reads, suggesting that you cannot change rate, you change the way you read, and rate is a consequence of this and we have innumerable reams of various types of research to indicate this.

In reference to professional status, anyone who guarantees results is prima facie non-professional, if he belongs to the American Psychological Association, the American Personnel and Guidance Association, and a host of others. You cannot guarantee results with people. Neither can physicians.

So the first test of the professionalism of a person is, does he guarantee to produce results. If he does, he is either naive or non-professional or he doesn't know this, which makes him both.

However, Dr. McConihe and I, I think, are in agreement. There is merely a semantic difference with us, but there are people who really believe in this. I think another important point is the problem of emotional complications. Dr. McConihe referred to the compulsive, rigid type, but there are many other types and this business executive and government leaders and millionaires and so on, ought to recognize this. Emotional disturbances are no respecter of status or position in society and you run across, inevitably, if you run these programs long enough, people who need counseling and they usually need counseling on a level beyond your competence or time to give.

Dr. James I. Brown was the third discussant to react to Dr. McConihe's paper and began by saying: I am glad to see that Dr. McConihe has mentioned several times the matter of flexibility. There are, as you know, a good many ways of looking at flexibility. We have been looking at it in a slightly different way, trying to have the students read under four different conditions in order to get some kind of supplementary evaluation of flexibility. We asked them to read one selection, as they normally read it, another for top speed, another for top comprehension and another for skimming or scanning, aiming for a high degree of accuracy.

This past summer, we gave this procedure a little more refinement, developing a normative scale, so the student could see in which common situations he was performing at about average, or whether he was performing above or below average.

GLADYS ALESI
and
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BOARD OF EDUCATION
New York City

7. Teaching Reading to Illiterate Adults

INTRODUCTION

THE Fundamental Adult Education Program of the Bureau of Community Education of the New York City Board of Education is concerned with:

(1) The teaching of English as a new language, (2) Remedial education providing opportunities to adults to complete their elementary school education, and (3) Preparation for citizenship.

Basic to each aspect of this total program is the adult's need to develop skills in communication—reading, writing, and speaking. The reading program is dictated by the needs of the adults. Needless to say, these reading needs are extremely diversified.

The problem is compounded by the heterogeneity of its student population. Of its 44,693 enrollees, approximately 72% are those to whom English is a new language. The remainder are native-born adults who have never completed their elementary education. In the non-English speaking group we have further divisions: those who are highly literate in their own native language but illiterate in English, and those who are equally illiterate in their mother tongue as in English.

The report that follows, covering a summer experimental program to educate unemployed and underemployed residents of New York City, actually provides us with a cross-section of this group.

A Literacy Program in Operation

This past summer[1] the Bureau of Community Education conducted an eight-week intensive program called "Operation Second Chance" for about five hundred unemployed adults in the City of New York, many of them recipients of public assistance. As its name implied, it was a program designed to offer a second chance to those who had missed the first chance at formal schooling in childhood. It provided a second chance to learn the basic communication skills, to obtain an elementary school or high school diploma, and, in general, to get those educational tools that would make them eligible for vocational training and thus employable. Specifically our aims were: (1) To coordinate teaching of the basic subjects of reading, writing and arithmetic with real-life situations of earning and producing, (2) To instill in students a feeling of the dignity of this learning, (3) To encourage students to progress at their own level, (4) To kindle a spirit of interest in further education.

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[1] Summer, 1963.

During the week of July 1, 1963, students were tested for placement in the following programs:

PROGRAM 1

English-speaking Adults
(Elementary subjects: Grades 1-8 and high school equivalency preparation)

Beginners: Basic reading, writing, and arithmetic
Advanced: Leading to elementary school diploma
High school equivalency preparation

PROGRAM 2

Non-English speaking Adults

English for beginners: Pronunciation and pattern practice, reading, and writing.
English for intermediates: Speaking, reading, writing, and English on a more advanced level.

As a result of the testing program, we found men and women lacking the literacy skills necessary to benefit from instructions in regular classes and diffident about their chances of ever reaching even the most limited educational goals. This paper, therefore, concerns the development of a program to give such adults the necessary reading and related skills to attain basic occupational literacy, and simultaneously to arouse interest in continuing education.

First, let us consider some definitions. A significant part of the program concerned work with *absolute illiterates*. Generally speaking, an illiterate cannot read or, as one dictionary describes him, is "ignorant of letters and books." This was certainly true of eighteen of our students.

Another definition of literacy, and one used by the decennial census, indicates that an illiterate is a person who cannot read at the level of a fourth grade pupil. This is sometimes termed *functional* illiteracy. In describing some criteria of functional literacy, Gray states that "a person is functionally literate when he has acquired the knowledge and skills in reading and writing which enable him to engage effectively in all those activities in which literacy is normally assumed in his culture or group."[2] Reading signs, bills, notices, applications, directions, newspapers and writing out forms, applications, friendly and business letters—these are some of the criteria we used in determining functional literacy. The State of New York refuses to grant the right to vote to a citizen who cannot show a school completion certificate or pass the Regents Literacy Test. From this standpoint, we might define a functional illiterate as one who cannot read well enough to exercise the rights of citizenship or to participate in the affairs of a democracy. At any rate, there were over one hundred students in this category of functional illiteracy.

The problems of an illiterate are legion. Among them are those that may be ascribed to the characteristics of the adult illiterate in any society, namely that he is "economically poor, superstitious, has dominant personal relations and has a specific vernacular of spoken words, images and actions."[3] Those enrolled in Operation Second Chance saw unemployment as their main problem.

Operation Second Chance brought many absolute illiterates to the point where they were able to read signs, directions on application forms, "News For You" (Level A); and even when properly motivated, articles about jobs for Negroes in the New York *Times*. It helped them write their first letters home. Operation Second Chance brought functional illiterates to the point of passing sample literacy tests and elementary school equivalency examinations. No doubt, the men and women gained a great deal in self-esteem from the assurance that they will be able to discharge the responsibilities of citizenship this November.

How did we do it? Let's begin with the first group, comprising absolute illiterates. Here the student body is English speaking, many of them are migrants from rural areas. They range in age from twenty-nine to fifty-five years. There are more men than women. All have had less than one year of schooling. They are rather unresponsive. As one teacher described her class at the beginning of the program, "Their speaking vocabulary is so limited, answers to questions usually are 'Yeah' or 'Na—ah!' They just don't communicate!"

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[2] International Cooperation Administration Conference, "The Application of Newer Scientific Methods of Learning and Teaching," Washington, D. C., 1961.

[3] International Cooperation Administration Conference, *op. cit.*

Testing and placement in the hands of sympathetic teachers became instruments of guidance. The very first day students began to see some potential for education within themselves. They saw other adults "in the same boat" who were also taking this course. They were treated with dignity and were shown some of the ways to "better" reading their teachers had devised. No shock was expressed at an inability to read the application; no patronizing tone was ever registered in the teacher's voice.

In fact, there was never any "talking down" to men or women who were learning to read an adult primer. Classes met six hours a day, five days a week. While emphasis was on reading, a wide variety of activities had to be provided.

A brief outline of the first week of the eight-week period follows:

1. Identification of needs—Students acted out "The Person I'd Like to Be," "The Most Impossible Thing in the World" and other situations designed to show hopes, reasonable goals, as well as frustrations. Discussion of these followed the activity.
2. Reading some of the signs we see. A filmstrip on "Street Signs" was used to supplement sign-charts which the teacher had prepared.
3. Beginning to develop a sight vocabulary based on these signs.
4. Reading of the phrases and sentences containing some of the words found on the signs. (e.g. Men are at the bus stop).
5. Matching pictures with words and sentences. Beginning to make a picture dictionary.
6. Listening to recorded folk music of America. Talking about the songs. "Reading" the titles of some of them.
7. Using teletrainer equipment and materials.[4]
8. Listening to the sounds of words—Sounding out the letters that are heard. Learning to recognize the structure of the letters that produce initial sounds.
9. Giving and taking oral directions.
10. Tracing the letters written in crayon by the teachers. Then going to the blackboard and finding the same words there.
11. Finding words we know in the headlines of "News For You"[5] Level AA (for adult education classes).
12. Looking at Civil Service publications—"ads" for jobs.
13. Listening to stories read by the teacher.
14. Setting up a class library.
15. Planning a trip to the neighborhood library

[4] Large dial, real phones and directories supplied by the N.Y. Telephone Co.

[5] A publication of Syracuse University School of Journalism.

These are in addition to the many drill activities built around the unit for the day.

In class *the method* used was one that might be designated the old-fashioned title of "experience chart." At the beginning, the teacher brought in a newspaper article about jobs in the building trades. Students were asked what they thought of the charge that not enough Negroes or Puerto Ricans were being employed. Discussion was charged with emotion as members of the class expressed opinions. As the discussion progressed, the teacher printed some of the "key words" on the board. Later, they were worked into a story of jobs for Negroes in the construction trades. From these words, practice in word and sound recognition began. At the close of the first session students knew these words *men, women, work, jobs, negro.* They also learned certain initial sounds.

This experience was interesting to the students; and though a long hard road lay ahead of them, they felt that they had accomplished a great deal and that they had "read something of interest to them—not "Alice sees Jerry" or "Sally has a doll"—but something of adult interest.

Writing activities were coordinated as much as possible. A kinesthetic approach was used to teach them to write. Beginning with their names, addresses and telephone numbers they learned to write the component letters the first day.

From that point on, teachers carefully planned lessons around group and individual experience within the content area of jobs and occupations. Within each class there were always those who served to motivate others toward a specific learning activity. During the first week, one of the teachers, talking about jobs in the hangars of Idlewild, struck a responsive chord in Arthur H, who was quick to tell the others how he had been interviewed for several jobs as mechanic at the Airport, but lost one because he didn't know how to fill out applications properly and because he couldn't express in words what he really could do. This led to a 4-week unit on jobs and applications; during this time there was a trip to Idlewild, mock interviews were held and application blanks were filled out. Content for reading lessons in this unit covered the following: trade terms—Jobs available, titles of persons responsible for personnel recruited—unions, pensions, health-accident insurance, taxes and tax forms, payroll deductions, coffee breaks.

At the end of the unit many students felt that they qualified for one of the available jobs. Arthur H was actually able to obtain the job he wanted. The teacher was convinced that all of the students were able to read and write well enough to handle employment applications in the transportation industry. Those to whom this was not of sufficient personal importance to justify more intensive treatment had learned many transportation words which carried over to their newspaper reading. Throughout this unit, as in the others, the *method* was the same:

The teacher presents the topic for the day by giving some background information, students discuss it and then cooperatively compose a story to be read by the group.

Before the "story" becomes the reading lesson, the teacher places the new words on the blackboard, then each word is used by students in a way related to the subject under discussion. The story is "edited" by the teacher. Then it is placed on the chalkboard and read by the class. Later, the story is transferred to a rexograph stencil and is duplicated to become part of each student's workbook. It was noted that the students of the Beginner's Basic Class, particularly, gained great satisfaction from reading material that they had helped to write. When they found the same words in supplementary materials used during the same lesson they expressed pleasure at recognizing "their words."

It was essential, of course, that reading of words, phrases and sentences be controlled with each lesson, yet it was never simplified to the point of being childish. Vocabulary was that used by the ordinary working man or woman of the community. When Civil Service forums were held in a school, preparatory discussions were carried on in the literacy classes and the lesson revolved around the presentation to be made by the personnel officials of companies like the A & P, Continental Can, Esso and others who cooperated in program. Class visits to hospitals, factories and stores where jobs might be available supplied other common experiences upon which reading materials were built; in fact, these visits also enabled the teacher to concretize the lessons as students learned to fill out the specific applications of individual employers, for these were always obtained in quantity from the personnel office. Vocabulary and sentence patterns used were woven into a story about an applicant for a job.

Many follow-up activities were planned each day to reinforce learning. Techniques to build word-recognition skills including meaning clues, visual and structural clues, as well as auditory and phonic clues. Teachers regularly prepared word study charts and exercises for visual and structural analysis. In all cases these were functional and related to the particular unit of work being taught at that session. Through practice exercises students learned to associate the form of the letter with its sound; again, these drills were never child-oriented. On large charts supplied by a publisher of textbooks, one teacher substituted pictures of adult activities for those of children so that students saw the picture of a bus rather than a boy bouncing a ball for the word association drill on the initial "b" sound.

Needless to say, within the literacy program it was the teacher who performed the integral function; the sympathetic manner, enthusiasm and resourcefulness of individual teachers was reflected in outstanding progress made by some students, who, in the course of the 8 week period went from absolute illiteracy to the point of reading books like *Harriet Tubman, Conductor on the Underground Railroad* and the *Dairy of Anne Frank,*[6] from the class library.

An example of the resourcefulness of one teacher is this presentation: A large chart had been prepared in the form of a business envelope, addressed to one member of the class with another's return address appearing in the upper left hand corner. "Is this letter for anyone we know?" asked the teacher. When the identity of the addressee was established, students tried to guess who had sent it from the return address. This activity kept students interested as the teacher taught the reading and writing of addresses including such words as: *avenue, street, Brooklyn, New York,* and simple letter forms.

At this level, activities led to basic meaning development were also introduced for, of course, they were essential to growth in reading. These included word association and word building exercises, substitution practice, action chains and the ever present sentence completion drills. Here too, the resourceful teacher planned a variety of interesting activities around the lesson content. One teacher suggested that students keep a file card of words they had learned to use under different subject areas. At the close of the session it was noted that one student had over one hundred "long" words in his card file under subject headings like these:

Application blanks
Getting a job
Getting along with others
Social Security
Vacations
Union
Taxes

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[6] School Edition Edited by Henry Lewittes—Globe Publishing Co.

As noted above, a few students made exceptional progress but all of them made steady and satisfactory progress toward literacy.

All of the original group of eighteen illiterates were ablt to read common signs, questions appearing on job applications and simple sentences at the end of the eight-week period. They were given completion certificates upon passing these tests. That they go to further instruction was stressed by the teachers in group and individual interviews. All of the students promised their teachers that they would do so.

Group 2 consisted of 120 students who were classified as *functionally illiterate*. Functionally illiterate adults are sometimes defined as "those who have not completed the first four elementary grades or first four years of school."[7] Generally speaking, these students lacked the basic skills of reading, writing and arithmetic which one would expect the person who had four years of elementary education to have. Of this number eighty-four were unable to "pass" the following test given during the registration period.

ORAL READING-Individual

Bill needs a job.

He asks his friend, Joe, "Are there any jobs in your place?

"No, not just now," says Joe. "But there's a sign down the street, MEN WANTED,"

"Where?"

"In the ABC Food Store."

"Thanks, I'll try."

What sign did Joe see?

Answer:—

The remaining thirty-six were able to pass the next higher test (T-3) but not the T-4. Competencies varied considerably within the group but in general, these were slow, low-efficiency readers, who seldom read more than the headlines of a daily tabloid and who, initially, contemplated with despair the thought of learning any subject matter content that involved reading.

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[7] *Literacy and Basic Elementary Education for Adults.* Washington, D. C.: U. S. Dept. of Health, Education & Welfare, Office of Education, 1961.

Yet, for many of the students, the attainment of an elementary school diploma became the compelling motive. When they were given the opportunity to prepare intensively for the standardized elementary examinations and the confidence that they could do it, they worked in school and at home on material that might have been considered too difficult. Since the city-wide examinations tested knowledge in English, social-studies and arithmetic, these subject areas supplied a great deal of the content of reading lessons. Students were encouraged to work on supplementary reading materials at their own pace and to begin new units as soon as their work had been corrected.

Lessons, following the course of study in elementary mathematics, the geography of city, state and nation, civics and recent American history, were designed to bring reading and writing skills up to the equivalent of a sixth year level.

Another incentive for this group was the literacy test for new voters. Samples of reading materials similar to the New York State Literacy Tests were used regularly. Students who were told that they were "ready" to take the literacy test now, expressed a great deal of satisfaction with the progress they had made.

Of course, with this group, too, employment was a powerful motive. "Working in New York City," a publication of the Mayor's Committee on Exploitation of Workers was important reading for these students. After class discussion and vocabulary development in preparation for reading, students were able to read about "apprenticeship training," discrimination in employment, workmen's compensation, and legal minimum wages. Content of teacher-prepared materials also included the following:

1. How to fill out job applications
2. How to conduct oneself at a job interview
3. Vocational vocabulary peculiar to different industries
4. Jobs in selected industries described in NVGA publications and means of obtaining employment
5. Apprenticeships available through union programs

In the six-hour daily program for this group, approximately three hours were spent on reading activities—including the formal reading lesson with follow-up, individualized reading in content areas and recreational reading.

During the class reading lesson, discussion always preceded vocabulary orientation. In the sample lessons reported here, the teacher brought in a large colored magazine cover depicting a job interview with a very sloppily dressed girl, with a friend standing beside her chair, facing an elegantly coiffed and dressed older woman. The name of the company "Charm, Inc." was on the door.

"Do you think she got the job?" asked the teacher. Students discussed this situation. In the course of the class conversation, the following words were used and placed on the blackboard:

interview—interviewer
neat—neatly
impression
alone

Students were asked to summarize some tips for job applicants. Then the following was put on the blackboard.

A JOB INTERVIEW

> Always go to a job interview alone. This isn't the time to take a friend or relative with you. To make a good impression you should be on time or a little early. Dress neatly. Don't talk too much. Wait until you are asked, and then tell about yourself. Be sure you know the dates of all the jobs you have held.
>
> Above all, remember to look your best. Dress with care. Brush your teeth. Shine your shoes and comb your hair before leaving home. Don't chew gum.

1. Pick out 2 things you SHOULD do:

   Dress with care

   Talk too much

   Dress neatly

2. Pick out 2 things you should NOT do:

   Chew gum

   Brush your teeth

   Be late

Follow-up activities include dramatization of a job interview, preparation of supplementary reading sheets using the same vocabulary in a story about an unsuccessful applicant for a job, flash-card drill, word-building and word-dividing exercises. As part of their course, these students visited many places of employment where they were given mock interviews and so they were able to use these experiences as a frame of reference for the dramatization. It should be noted that because of the limited educational and social background of our students, it was necessary to provide them with experiences for developing a meaningful vocabulary. Throughout the program, visits to cultural and civic centers, Small Claims Court, small business operations and other community resources were alternated with school enrichment programs, panels, film and current events forms, to encourage the class conversations that became the basis for the reading lesson.

After this particular lesson, students were encouraged to look over some of the Public Affairs pamphlets on the library table. They browsed through booklets on job-hunting, job interviews, personality and grooming. For each unit that they read and reported on, they were given extra credit and encouraged to find other helpful materials in the local library. Since dictionary lessons were begun at this level, students were helped to find the meanings of new words they encountered. They also began to keep their own word books under subject headings.

To make the transition to thought reading with its concomitant skills of grasping the main idea, skimming following cause-effect relationships, study and interpretation, the following techniques were devised:

1. Making up titles for the experience charts
2. Describing in a few sentences a favorite TV program or movie
3. Explaining proverbs and axioms
4. Listening to poetry. Interpreting literary materials
5. Looking for answers to questions in content areas

Reading activities in one class included the following:

1. "Getting to Know You"—Teacher takes the first step in planning a developmental reading program by taking an inventory of the student's reading level. Students given material of high interest to browse through in class library while teacher looks over test results. Students tell stories about themselves, what kinds of jobs they have held, their job and educational aspirations, and what they hope to get out of the course.
2. Preparation of individual reading charts, showing levels and test scores on test material. Preparation of tentative time schedule for related

activities.

3. Introduction of list of recreational reading materials for each student, use of Easy Reading Lists from Brooklyn Public Library, followed by visit to library.
4. Planning of class dictionaries and individual word books.
5. Selecting and editing pupil-prepared materials for a school newspaper.
6. Electing a Book Committee to pick out easy-to-read books for the class library.
7. Going to a summer theatre: "Shakespeare in the Park" (the summer Shakespeare presentations in Central Park). Preparatory discussion and follow-up reading.

These were in addition to the school programs mentioned earlier, namely the civil service forums, excursions to factories and other places of employment.

Conclusion

At the conclusion of "Operation Second Chance" students were given evaluation reports, completion certificates, elementary school diplomas and referrals for high school equivalency examinations. These indicated that as of August 30th, the following goals were reached.

1. Eighteen persons who were completely illiterate are now reading signs, directions, applications, "News For You."
2. One hundred and twenty persons who came to us without the equivalent of a fourth grade elementary education made excellent progress, reading the equivalent of 6th grade materials, writing letters, and original compositions. Forty-nine received elementary school diplomas. The others are well on their way toward this goal. One hundred and ten were screened for high school equivalency.

The report of one teacher who taught the more advanced group may serve to summarize the program more adequately than statistics.

> My first impression was that the students were inclined to be too formal and rigid. They stood every time they had something to say. They were reluctant to offer information, solutions, or suggestions. I attempted to make the students more relaxed and comfortable. I encouraged them to work with each other at every opportunity. We discussed why it is desirable to talk in groups under certain circumstances. After a few days I noticed greater pupil participation, more interest and a more relaxed atmosphere.
>
> There was a very broad range in the ability of the students. We tried to help each other whenever possible. That is, we utilized the talents of the brighter to help the slower ones. Many of our more alert students were assistant teachers for a limited period of time each day.

> Although the immediate reason for coming to school was to acquire additional education so that getting a job would be easier, so many of the students considered other reasons important. Some wanted to help their children with their studies. Some wanted to show their children that they knew enough to help them with their homework. The students often said, "I want to understand the world around me better;" "I want to speak and understand like an educated person;" "I want to read and write well."
>
> When we began to introduce the use of the *New York Times* in our class, we had reached another high point. In fact, I believe I got the greatest satisfaction of my career from showing them they were able to read it. Previously, those who ever looked at a newspaper relied on the pictures and captions in the tabloids. Each day's short discussion of the news made it more and more evident that our students were beginning to understand current issues and problems.

This teacher's report points up one aspect of progress; other teachers were impressed by the high rate of attendance (the attrition rate in adult education classes is usually much larger), by the satisfaction of the students who would not now be embarrassed to take the literacy test for voting in October, and by many other gains. At this time, we feel that only benefits are discernible from the program and that such benefits may be attributed to some factors of this program that were different from other programs in adult fundamental education. These were:

1. The intensive nature of the course
2. The provision of a substitute for the adult's normal employment day
3. The foreseeable goal to be reached after eight weeks
4. The method used—the building of a background of experience for vocabulary development and individualized reading.

Because of these aspects of program, participants gained skills that they felt to be impossible; some earned certificates which would open doors to jobs or vocational training; all of them grew in their own eyes as they achieved new dignity and recognition.

DISCUSSION

Dr. Albert Harris opened the discussion of the paper by Mrs. Alesi and Mrs. McDonald by commenting: I think this paper gave me support for so many beliefs that I have had about certain sound principles of psychology that apply to education that I am very grateful to the authors for presenting it.

I could not help, as I listened, drawing constant comparisons to what we have been encouraging teachers of beginning readers in the elementary schools to do: to find topics of real interest to the children, to get them talking about these topics; where experience is lacking, to try to provide it through visits and field trips and, where opportunities like that are lacking, to supply audio-visual aids that come closest to reading experience; to use discussion periods and dramatizations as a basis for formalizing statements that can be written and used as reading material; to use the vocabulary in this reading material for developing beginning skills in word attack and word analysis and phonics; to integrate writing practice with real life purposes as far as possible; to provide meaningful tasks in terms of the learner's immediate life needs and goals; to try to start at a level where the learner can succeed and to be sure that the instructional program does not outpace the learning speed of the student.

Dr. Miriam Schleich followed Dr. Harris in discussion of the paper with the following comments: I had just about the same reaction that Dr. Harris had, and I was thinking what a wonderful illustration this is of the specific use of experience charts and the experience approach to individualize reading to meet the specific needs of the group, and, furthermore, I was wondering whether any of your materials are available as simply as guides for the kind of thing that can be done with experience materials.

Mrs. Alesi indicated in answer to the above question that we have [such materials] in quantity, of course.

Dr. James I. Brown asked about the adequacy of materials that were being used in the program at the present time.

Mrs. Alesi in response to this inquiry said, Yes, I think I can say that we have in sufficient quantities samples of the materials used for absolute illiterates and functional illiterates. We have samples of the application form, of the materials that we developed to orient them to the vocabulary appearing on the application form, of the pictures that we use, and of the tests, of course, that we use to determine placement, and the city-wide test that we use to record progress upon completion of the course.

Mrs. McDonald continued the discussion by saying; We have just completed the first section of our new manual, which has just gone into print. We revised a manual that was in existence for about fifteen years. The new manual will have three parts, one of which concerns itself with reading. This is now in the process of being printed by our curriculum bureau, and practically all of the materials that were included were materials that were used during this summer and during the year. They were the same kind of materials that were used in Operation Second Chance.

We are in the process of printing twelve books--booklets, really—in reading suitable for adults. Furthermore, parts of the program implemented by programs instruction are ready to go to print. We are aiming to have sufficient material for our own students to relate to their own personal adult experiences. All of this material is teacher prepared.

Dr. Arthur McDonald commented: I think that if we would extend the type of teaching that has been described in this paper to our junior high school and high school level, we would reduce our drop-out rate rather sharply because this is the involvement of the individual and his needs. This is what Dr. Harris has, of course, been preaching for years and many other people have had the same idea.

Dr. Raygor mentioned the fact that this approach is going to reach a rather limited number of people, as you are doing it now, and I wonder if the effectiveness of it wouldn't be magnified tremendously if a lot of the effort were put into the production of materials that might be used by others, because I know all of us scattered around the country constantly run into situations in which we could find people on a volunteer basis or on some other basis, who could use such materials and we have nowhere to send people and nothing for them to use.

Mrs. Alesi made this comment with respect to the preparation of materials: Materials must be created by the individual teacher. The materials we have can be guide to your teachers, but the group that went to the Idlewild hangar saw certain things. They discussed certain things; they touched the planes, the engines. The story that they wrote, that they read, became meaningful to that group. The materials that we prepared are streamlined toward a specific end, keyed to a particular situation. We would be glad to share them with you, but I think they can serve only as a guide to teachers. Ultimately each teacher must prepare her own materials. Preparation of material may be a cooperative effort if the goal is the same, the teaching directed to a given and specific situation.

Of course, in the content area materials that we used with the group that we described as functional illiterates (those who went on to pass the elementary school equivalency exam), that material is based on units of instruction. We took units of history and units of government and the material that they need for the examination and worked back, so that students worked on these units. They read them, they answered the questions, they went on to the next unit.

Dr. Albert Harris at this point asked: May I raise a question? One One of the features of this program that no one has commented on as yet, is the intensive nature of the program, six hours a day, five days a week, from the time it started until it finished, and in this respect, it resembles the military training programs of the Special Training Units, which again provided almost a full working day of intensive education.

It seems to me that for the unemployed adult, this kind of saturation is highly desirable whenever it can be achieved, because these people are under time pressure. They cannot wait indefinitely to reach a fourth grade level of education; they cannot wait two years or three years or four years. That kind of long-range planning is just out of consideration, but if they can look ahead to see that in two months or three months, they will be able to qualify for something that is going to be immediately practical and valuable to them in the way of job training or job getting, it seems to me that this provides the possibility of a level of motivation, that a more drawn-out program cannot possibly achieve.

Mrs. Alesi: There is a great deal, too, to be said for the fact that they substituted the hours when they might be working. They were doing something worth-while. This added a great deal to their own self-esteem, the fact that they were going here, that they were going to have to get something at the completion of eight weeks, the fact that there was a foreseeable goal, was very important to them.

Dr. James I. Brown, who had been presiding at the session, closed the discussion with the following comments: In the matter of self-esteem, I think the one thing that has meant most to me through the Army experience was the realization of the close relationship between a man's ability to read and a concept of his own dignity and worth. You could practically see these people as they learn to read, begin to respect themselves and look at life with entirely new eyes.

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8. Evaluating Achievement in College and Adult Reading Programs

APPRAISAL of the reading abilities of college students had its beginnings early in this century, and within two decades became a very widespread practice. This rapid growth in measurement of reading skill is attributable, at least in part, to the educational psychologists who were interested in both reading research and in measurement. Nowadays when practically every college or university employs an entrance examination battery that includes some measure of reading ability, the yearly use of college-level reading tests run into the millions.

While many of the evaluation procedures and instruments developed for college use were quite suitable for use with non-college adult readers, specialized appraisal techniques for the latter group did not develop much during the first third of this century simply because reading programs for non-college adults did not exist in any considerable number. Reading instruction for adults in the business world, the armed services and other branches of government, adult education centers, and even individual homes and offices has gained most of its momentum since World War II when Americans have had more buying power, a shorter work week and a heavier burden of reading matter, even though the burden is self-imposed in many cases. Even yet there are only a few reading appraisal procedures which were developed specifically for non-college adults, and most reading evaluations of such adults are based on techniques and instruments originally planned for the college population.

Purposes of Evaluation of Reading Achievement

Attention to the purposes of evaluation is important, not because reading teachers are reluctant to evaluate their students and programs, but because the purposes determine the nature and direction of the appraisal procedures, and also because a keener sense of purpose will sometimes lead to the development of a more appropriate evaluation.

In the broadest sense most reading achievement evaluations have the same general purpose: to determine how well—or how much better than previously—a reader or readers can perform when confronted with the sort of reading tasks which have been defined as important to him or them. However, the specific purposes can vary considerably. Evaluation of reading achievement in colleges may be for such purposes as (1) to estimate the prospects of success for individual students in certain colleges or curriculums or the improvement of these prospects; (2) to demonstrate that students have increased their abilities and inclinations to read effectively in nonacademic as well as academic reading situations; (3) to reveal the "worthwhileness" of the reading program to administrative officers; (4) to convince the students that they have improved in reading power; (5) to identify aspects of the program which need to be improved; (6) to reveal to individual student areas of their weakness; (7) to determine how reading improvements have been retained over a period of time; and (8) to gather data for "pure" research.

The purposes for evaluating reading achievement in non-college reading programs are likely to be less altruistic for at least two reasons. First, adult reading courses are often conducted by profit-seeking agencies and paid for by organizations which expect immediate "practical" results.

Second, non-college readers are not semi-captive learners in the same sense as college students even though an employer may require them to take reading instruction; thus, adult classes often reveal a lack of patience with the reading instruction which is not obviously practical. The purposes of non-college reading achievement evaluation may therefore, include such as: (1) to demonstrate to students (or their employers) that they have improved certain skills and thus received their money's worth; (2) to indicate that certain professional or clerical reading assignments can be done more efficiently by readers who have had special training.

Determination of Pre-Instructional Reading Status

In order to evaluate achievement which results from a reading program it is, of course, necessary to have some description of the performance level of the readers before the instruction is given. Here again practices among colleges and universities differ from those employed by other adult programs. With the widespread use of the pre-college testing programs, university and college admissions offices commonly have one or two measures of the read ability of each student several weeks or months before he arrives on campus. Those colleges which assemble their own batteries of entrance examinations also include one or two tests of reading skill, as a general rule. Inasmuch as colleges are concerned mainly with measuring the ability to read academic materials effectively the reading tests administered to prospective freshmen usually feature the comprehension of textbook-like passages ranging up to several hundred words in length; speed of reading may be measured, but it is not often treated as though it is as important as the sort of comprehension measured by the *Davis Reading Test,* (9) *Cooperative English Test, C2,* (6) or the reading section of the *American College Test.* (1) Generally, some measure of vocabulary is included either as a separate test or as a subtest in reading.

College entrance examination batteries sometimes include some measure of intelligence, usually one with extensive verbal content. Even when no intelligence test is a part of the battery, the cross section of abilities revealed by the complete profile will provide a basis for comparison of reading and other academic abilities. Comparison of reading test performances with intelligence measures or with battery profiles indicates which students should profit most from the different types of reading instruction offered, and thus guides the sectioning of students into the several channels of the total reading program when more than single-track instruction is available.

Non-college adult reading programs often do not have very much information about the specific reading ability or the general intellectual development of enrollees until they register for the training. Even when industry or government has extensive data concerning personnel, much of the information is of limited value to the reading instructor. Thus, the colleges and universities usually have the better evidence with which to invite or direct personnel into a reading program.

Customarily a reading survey measure is given to either college or non-college adult trainees as part of the first or second instructional session. A perusal of the literature suggests that the *Survey Section, Diagnostic Reading Test* (11) has replaced the *Iowa Silent Reading Test* (17) as the most widely used pre-instruction measure of reading status, although the latter test is still used in a surprising number of programs in spite of its antiquity. In addition to the survey test, many college-adult reading programs induce beginning trainees to evaluate themselves as readers, usually by responding to a stock set of questions. Such evaluation is, quite naturally, highly subjective in most instances and involves the students' appraisals of their attitudes and interests as much or more than of their abilities. The trainee self-evaluations then are interpreted subjectively by the instructional staff. After a few years of dissatisfaction with the subjectivity, and consequent inaccuracy, of the conventional type of self-evaluation, Raygor and his colleagues (31, 30) at Minnesota began to convert a pool of several hundred self-evaluation statements into an instrument which could be used to reveal reading disability syndromes. Included were statements such as: "I comprehend slowly when reading rapidly," "I seldem finish what I plan to do," "I read more than I used to." The resulting *Diagnostic Reading Inventory* has been subjected to assorted statistical procedures in an attempt to extract from it a number of scales which will identify different types of criterion groups of readers, such as students who are overconcerned about their reading, or rigid, compulsive readers who seem to experience difficulty in changing their reading patterns.

The use of Edwin L. Young's Reading Depth-Attitude Sentence-Completion Test is reported by Dorothy Kendall Bracken to be routine procedure in the college improvement program of the Reading Clinic at Southern Methodist University. Reading attitudes and personality dynamics directly related to reading are diagnosed from the sentence completion test and the results used to aid reading teachers in locating the depth factors operating *in the reading performance.* Thus, the approach is phenomenological rather than psychoanalytic.

While a reading survey test, and a self-evaluation may be customary appraisal procedures at the beginning of college-adult reading instruction, there are many other evaluational devices employed to gauge readers before instruction begins. Various measures of personality, visual screening tests and eye movement photographs are not uncommon in the arrays of pre-instruction evaluation procedures. If the counseling program is administratively close to the reading instruction, an individual interview of all or some students may contribute to the evaluation process. Because most of the reported research in this area has been done in colleges rather than in the other adult education agencies, pre-testing in college programs has at times included measures of any of a multitude of social, emotional, cultural and educational factors. Smith and his staff at Michigan (35), McDonald and his aides at Marquette (23), and Rankin at Texas Christian (29, 28) have been particularly active in the identification of psychological characteristics of beginning reading trainees, while Hill (14) sought to evaluate a variety of social, cultural, experiential and personality factors as they related to reading ability prior to college instruction. Hill's measures ranged from *Warner's Revised Scale* (parental occupation) (40) to the *MMPI* (25) to a phonetic inventory test built by the investigator.

In those colleges which provide a clinical program for their seriously retarded student readers some sort of detailed diagnostic evaluation is needed. Until very recently no such diagnostic instruments were available, for while the *Diagnostic Reading Test* in its various booklets provides a great deal of detail, it does not reveal the sort of diagnostic data available at lower grade levels from the Durrell Analysis of Reading Difficulty (12) or the *Gates Reading Diagnostic Test* (13). This year (1963) the Spache *Diagnostic Reading Scales* (10) have appeared, and according to the examiner's manual these scales are appropriate for use with college students. Another recent test which is described by the publisher as suitable for diagnostic use with college students is the *McCullough Word Analysis Test* (20). Both the Spache and McCullough tests are too new to be represented extensively in the literature; thus, no accounts of their use at college-adult levels can be reported herein.

Evaluation of Reading Ability During the Instructional Period

Since most of the evaluation of reading achievement occurs during and at the completion of the instruction, it may be appropriate to consider the question: "What Can Be Measured?" This very question was treated by Lennon (18), and the bulk of his answer dealt with the number of discrete aspects of reading comprehension that can be identified and measured with present-day techniques. Lennon was provoked to study this problem because reading tests in current use identify, or at least label, seventy or more reading skills, yet factor analyses and subtest correlations have frequently suggested that separately identified subskills of reading are so closely related that they can be assumed to be nearly identical. After his review of the research relating to this point he concluded: "It would seem that we may recognize and hope to measure reliably the following components of reading ability; (1) a general verbal factor, (2) comprehension of explicitly stated material, (3) comprehension of implicit or latent meaning, and (4) an element that might be termed 'appreciation.' " (19) Lennon did not neglect to point out that the overlap between these numerous reading skills should not be interpreted as an indication that the teaching and testing of these detailed skills is a waste of time, for, inasmuch as the skills are applied in highly specialized reading situations, it is probably worthwhile to teach and test the precise reading skills that seem important.

For the past half dozen years Rankin (27) has experimented with the cloze procedure as a measure of reading comprehension. The cloze technique is an arrangement in which certain single words are omitted from the context and the student is asked to supply these missing words. The extent to which the reader's suggested words correspond to those of the original author is an indicator of comprehension.

Viewing the measurement of reading comprehension from a quite different observation point, McDonald (22) found that timing procedures which periodically interrupt the reading act have a detrimental effect upon reading comprehension. The reading performances of readers classified as highly anxious were particularly hampered by the interruptions. From the same investigation McDonald concluded: (1) that the length of the reading passage (in the test) had no effect upon the basic rate and comprehension scores derived; and (2) that in terms of reading performance there is no difference between the practice of completing a reading selection before noting the elapsed time (amount-limit) and the interruption of the reading a single time to enable the student to mark his place (time limit). McDonald's research was a logical follow-up to that of Humphry (16), because the latter had demonstrated a lack of support for three seemingly reasonable assumptions concerning the measurement of reading speed. The assumptions which Humphry had to doubt after analyzing his data were: (1) Subjects read faster on time-limit test than on amount-limit tests which they can complete at their own speed. (2) Pressure of frequent periodic interruptions will produce higher rates on time-limit tests. Concerning this third point, the investigator discovered that on rather long rate tests the subjects read faster near the end of the test than at the beginning. He also concluded that a four-minute time-limit test is about as valid and reliable as other tests which are less convenient to administer.

In college-adult reading instruction across America the measurement of reading achievement during the instructional period is multifarious. Wise teachers evaluate students, instructional materials and themselves frequently with instruments of limited precision—reading workbooks, locally-developed exercises and tests and non-standardized tests which accompany so many of the teaching materials and devices. In addition, the planned sequence of formal and informal appraisal is interrupted whenever a student is performing so poorly that extra appraisal is introduced in the attempt to determine the sort of instruction he would find more profitable; sometimes the extra appraisal leads to referral to another agency. At the other extreme the planned routine is also interrupted when a trainee's performances hint that he might profit more from instruction at higher levels, and individual appraisal is needed to confirm and then reveal the suitable levels.

Many college-adult reading programs which employ a standardized reading survey as a pretest utilize other forms of the same test as indicators of progress once or twice during the period of instruction. Because varying notions have been expressed concerning the motivational value of such medial testing, Sayles (23) investigated its effect upon achievement in the total course. He found that the administration of a standardized test (DRT) near the middle of the course had a detrimental effect on the final test scores of anxious extraverts; other personality types were not significantly affected one way or another.

For many years reading teachers have enlarged upon the virtues of flexibility or versatility in reading, (ability to adjust to the pattern of reading that is appropriate for the style, difficulty and content of the material and the reader's purpose) and in the past decade several measures of reading flexibility have been devised. Sheldon (34) and Spache (37, 38) and their assistants pioneered in this measurement at Syracuse and Florida, respectively. Recent statements on the measurement of flexibility have been provided by Braam (4), and McDonald (24), and the latter has developed four forms of a *Reading Versatility Test* (32), at college-adult levels. Research currently being completed at Marquette indicates that readers whose scores identify them as versatile readers are also the readers who demonstrate flexible eye movement patterns on the Reading Eye (eye movement camera).

Many college reading programs and an occasional non-college adult course are committed to the improvement of study habits and work skills as well as reading *per se*. The programs which include emphasis on the study skills often include a formal test; at present the *Brown-Holtzman Survey of Study Skill Habits and Attitudes* (5) seems most widely used, judging from appearance in the literature.

With Americans as test-conscious as they are, appraisal of progress at the end of the training is almost inevitable. Because reading gains are so often dramatically demonstrable such appraisal is good advertising, either to promote business, if that is an issue, or to convince other students that they could profit from the reading course when it is offered again. The most obvious evaluation of achievement at the end of the course is the administration of another form of whatever survey test was given as a pre-test. If gains are determined by the subtraction of initial scores from final, equivalence of forms becomes a problem. The equivalence of forms of certain reading tests has been questioned at one time or another, and unfortunately, the widely used *Diagnostic Reading Test* has been challenged in this respect by several investigators. After the early evidence of non-equivalence from Bliesmer and Dotson(2), Triggs, Chairman of the Committee on the Diagnostic Reading Test, reported orally at a meeting of the National Reading Conference to the effect that improved norms would make the forms more nearly equivalent. However, at two subsequent meetings of the same organization, Raygor indicated—again orally—that he was finding non-equivalence as recently as 1961. Hinton (15) had doubted the equivalence of Forms A and D in 1956.

In addition to standardized tests, subjective student reactions to the training program are often collected as part of the total evaluation. As an indication of achievement in reading skill such subjective responses are probably not worth much, since they lack precision and are likely to reflect feelings more than facts. In some other aspects of evaluation, however, the subject reports may have value. A student might report that he is finding time for four or five times as much recreational reading as compared with pretraining; even if there is no way of checking the accuracy of his estimate, he has probably changed appreciably in this respect. If a student were to report that he had subscribed to *Harper's* or the *New York Times* as a result of frequent encounters with the publication in the reading class, he would reveal progress toward some goals, goals for which there is no conventional evaluation.

Those reading programs which filmed eye movements as a part of the pretraining appraisal of student readers usually re-photograph the saccadic movements at the end of the course, thus providing a permanent record of the changes in eye movement pattern which presumably resulted from the training.

Evaluating Reading Achievement in Its Larger Meaning

Ideally, the college-adult reading program should be evaluated in terms of its effect on the reader during the remainder of his life—is the trainee a better citizen, parent, spouse, worker, employer or vacationer as a result of his increased reading power? Unfortunately, evaluation on such a grandiose scale has not yet been completed, but reading achievement has several times been evaluated in terms of retention of gains and correlation with subsequent academic success. Mullins and Mowry (26) found that a group of trainees in an industrial class lost half their gain in speed within a year after the end of the training. However, Smith and Wood (36) reported that their groups retested a year after training, had continued to improve significantly in both rate and comprehension. Further, their trainee group made a significantly greater increase in grade point average at the end of the training semester than did a control group which received no training. At the end of the subsequent semester the differences had increased.

In his doctoral research at Cornell, McDonald (21) found that students who participated in the reading program achieved significantly higher grade point average and significantly lower dropout incidence when compared with controls who had not taken the reading training. Additional evidence of this sort, along with discriptions of experimental procedure may be found in the *Journal of Developmental Reading,* and in the several *Yearbooks of the National Reading Conference,* especially in Bliesmer's annual research summaries.

Some Comments on Tests and Testing

In preceding paragraphs the gross differences in college reading programs at different institutions have been considered only slightly, as have the considerable differences between other adult programs. There are so many types of college and adult reading programs with such a variety of purposes that an itemization of types is hardly feasible. Quite obviously, the staff of each program should select tests which best measure the intended achievements of that program, yet a few programs feature tests which are not particularly suited to the purposes of the program, and which do not reveal the major achievements of the trainees. A six-week, twelve-session adult education class in reading efficiency might consist mainly of trainees who wish to read faster the materials that they can already read with acceptable or excellent understanding; in short, the class numbers are concerned about improving reading rate. Because copies are easily available, the instructor uses the *Cooperative English Test, C2* for his initial and final measures. The *Cooperative* will not reveal gains from a short term reading efficiency course nearly as well as the reading rate booklets of the *Diagnostic Reading Test,* so the adult students will very likely leave the final session with less satisfaction than they might have felt.

Similarly, the use of inappropriate tests can give a reading program a favorable appearance rather than appraising its achievement of the original purposes. A college reading program may be assigned the major objective of improving ability in work study skills and comprehension. By using a test which is highly sensitive to reading speed such as the *SRA Reading Record* (39), the instructor can create the illusion of marked improvement in the study skills by giving a few hours of training in faster reading.

Instructors of adult reading classes must heed the functional level of reading tests more than the advertised level, because adult classes are often made up of very highly specialized personnel who are unusually good readers, and who thus "run off the top" of certain of the tests which are suitable for average adult readers. At a recent meeting, J. I. Brown reported informally that he had experienced difficulty in locating a test which was sufficiently advanced to be approriate for the excellent readers in his Extension Division adult groups at Minnesota. Reading teachers who have used the *Iowa Silent Reading Test* with either college or adult classes have usually found that some of its subtests are too easy, or the time limits are too generous for many readers. Particularly unfortunate is the tendency for an appreciable number of mature readers to finish the reading rate selections in less time than is allowed.

While it is seldom mentioned in the literature, reading tests or subtests can be divided into two categories: those which allow the reader to re-examine the text selection when answering the questions, and those which do not allow this sort of "looking back." At first glance, such a difference may seem rather inconsequential, and for some subtests it is. However, the differentiation merits some attention on the part of appraisers of reading achievement, because it governs the nature and depth of the questions that can reasonably be asked. If students are not permitted to look back at the text material when answering comprehension questions, the items must be limited to the sorts of concepts which a reader can carry in mind after a single reading. Questions based on the higher order comprehension skills—those in Lennon's classes (3) "comprehension of implicit or latent meaning, and (4) an element that might be termed 'appreciation' "—are often not defensible if the reader is not permitted to re-examine the selection. A thought-provoking question such as "How does the author's emotional tone change between paragraph 3 and paragraph 5?" is not a fair item if students are not allowed to look back at the two paragraphs. Since it is this sort of serious analysis of printed matter that most college teachers hope to stimulate, it would seem that depriving the student of the opportunity to re-examine the test selection also deprives him of the chance to be asked certain of the genuinely probing questions about the selection. In the typical study situation the student is not restricted in his re-examination of the text, so such restriction in the test is, at least sometimes, unnatural. Of course, there are certain types of tests and subtests for which the opportunity to re-examine the text is no issue.

When reading ability is appraised with non-standardized measures lacking norms there is often a problem of expression of the results. The need for a meaningful statement of results has led to the invention of some terms which, when studied, do not seem to really resolve the need. Perhaps because so many informal tests and evaluative exercises are accompanied by questions numbered to some figure that can be divided evenly into one hundred, the expression "percent of comprehension" has become a common element in the reading instructor's jargon. Possibly the educated directors and teachers of college-adult reading use a phrase such as "eighty percent comprehension" because they are confident that their sophisticated colleagues realize that they are not referring to eighty percent of some known or fixed value. However, there is a very considerable danger that the students will think that "eighty percent comprehension" means a lot more than it does. Unless a series of tests has been analyzed so that separate tests are known to be approximately equal in difficulty, it is an injustice to let the student think that eighty percent performance on yesterday's test is equal to eighty per cent on today's measure.

Several formulas have been devised to express both rate and comprehension scores in a single value. Commonly, rate in words per minute is multiplied by percent of comprehension, although there are more complicated combinations of the two factors. The resulting value is defended as an index of the amount of content assimilated per unit of time. However, in addition to the stated objection to the use of "percent of comprehension" these formulas involve the multiplication of two factors which do not give an unambiguously meaningful product. A reader who proceeds at one thousand words per minute and answers half the questions would achieve the same combination score as a reader who answered all questions correctly after reading five hundred words per minute, yet the two performances are hardly similar. There is no apparent necessity for combining rate and comprehension scores, but if a reading examiner insists on a combination he should perhaps select or construct a test which gives a rate of comprehension score in the vein of the test Blommers (3) assembled for his classic study.

Of the major measurement experts of this country, Davis of Hunter College has devoted a greater proportion of his time to the measurement of reading than most of his contemporaries. Additional—and somewhat more sophisticated—comments on reading tests and their use are included in his two articles (7, 8) in the *Tenth and Eleventh Yearbooks of the National Reading Conference.*

Not all the evaluation purposes listed earlier have been treated in this chapter. For some of the purposes, adequate appraisal instruments and procedures are not yet available. Nevertheless, examination of the crude reading evaluation techniques of the mid-1920's indicates that tremendous progress has been attained in the measurement of reading achievement at the college and adult level. Sophisticated practice seems to call for the conclusion that the profession needs better and more precise evaluation procedures and an abundance of research concerning their use. It is true that these needs exist; it is also true that a wide variety of imaginative procedures are being developed and studied in college and adult reading programs of the nation.

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DISCUSSION

Dr. James I. Brown opened the discussion of Dr. Eller's presentation with the following statements: Toward the end, Dr. Eller mentioned the fact that certain evaluative instruments lend themselves better to a particular purpose. There is one problem I think you have perhaps discovered, in dealing with adult students such as we get in the extension division or in industry, one of the major problems is this: at the beginning of the reading course, people are measured by a standardized test, and test average, or better than average for college or university seniors.

Now, I could not find an instrument challenging enough for adults. You might think that the problem is easily adjusted by just creating a new set of norms and thus you will have adequate measurement for the class.

The problem is really not that simple. For, when you get a test which is excellent for a college group, or a group below this level, and you use it with the adult group, you have not enough ceiling even if you do remake the norm, and you have the inevitable tendency toward the mean.

To meet this problem we cut the time so as to give the test a little more ceiling and to bring the initial results a little closer to the ideal of 50th percentile so that they would have plenty of room to show improvement. And this has been very helpful to us. It hasn't solved the problem completely, however.

Dr. Arthur McDonald was the next discussant to consider Dr. Eller's paper. He said, in effect: I would like to comment on some of the facts he raises which are disturbing. I think we should think about them. He clearly separated purpose of assessment and goals of instruction to be measured by assessment. I think this is a very important separation because a number of books have appeared which have been criticized pro and con and raised blood pressures in the psychological circles, and Dr. Eller has shown rather clearly that there are a number of people, some consciously, some unconsciously, using tests to demonstrate preconceived conclusions. Now, Dr. Raygor and I were speaking to a group—I would prefer not to mention the group—and Dr. Raygor mentioned that 2/3 of the studies he had found showed simple descriptive findings or findings which were a surety of the nature, and I had commented that very few studies corrected for regression to the mean placebo factor, etc., and ten people stood up in succession and said, yes, but we have to prove to our deans, our training directors, that we have a good program.

Now, this, I think, is a serious problem. We, as professionals, must educate these people not to fear failure. In other words, when a missile blows up at Cape Kennedy, they don't tear their hair out, instead that is counted as a success because they learn what they did wrong. And this is what we as reading specialists should do.

ANN JUNGEBLUT
AND
ARTHUR TRAXLER

EDUCATIONAL RECORDS BUREAU

9. Summary and Evaluation of Pertinent Research at the College and Adult Level

ON FIRST reading, this topic had its frightening aspect. You all know the dreadful feeling of being in a vacuum without data. But, as is often the case when one relies on memory, the apparent sparsity of research on reading at the college and adult level proved to be a figment of our imaginations. From 1930 through May of 1963, we found roughly eight hundred citations of published studies which involved college students or adults in some phase of research on reading. The tendency which we noted for the volume of published research to increase with each decade since 1930 is in line with the findings of Fulker (43). From 1945 through 1952, Traxler and Townsend (132) noted that there was a larger number of studies of remedial and corrective reading at the college and adult level than at the high school level. Summers (129) reported that almost twice as many doctoral theses concerned college reading between 1950 and 1960 than between 1930 and 1950.

A number of books (48, 127) are included in the count of approximately eight hundred which are not, strictly speaking, research studies. Also included in this total count are books designed for the use of teachers or individuals (134, 136, 68, 64, 52, and 152) which provide suggestions for remedial programs and discussions of techniques to be mastered, as well as specific practice exercises.

Some evidence of the degree of professional concern with reading at the college and adult level can be obtained from questionnaire studies of the extent of provision for reading improvement courses offered by colleges, universities, and by business organizations. At least four such studies (26, 135, 149, and 155) of the status and practices of remedial and corrective reading programs in junior colleges and colleges were published between 1940 and 1942. The per cent of responding institutions reporting the existence of such programs ranged from 32 to 61. By 1951, Barbe (6) reported that about 75 per cent of the institutions surveyed offered remedial help in reading and about half of these indicated that their programs had not been in operation before 1946. A survey of colleges and universities during the period of 1954-55 revealed that about 73 per cent reported reading courses in progress (25). A study of Negro colleges and universities (139) published in 1946 revealed that about half of those returning questionnaires provided systematic help in reading.

A survey of the techniques and procedures employed in twenty-three reading laboratories and government agencies was published in 1957 (36). In the same year, Harry Patterson (102) surveyed a sample of the five hundred largest United States industrial corporations and found that 59 per cent of the respondents (nearly the identical figure obtained from colleges and universities some fifteen years earlier) either had reading programs in operation or had had such programs within the previous five years. One survey of individuals and institutions believed to be interested in or making facilities available to adults (73) revealed that, among colleges, reading services were extended to adults more frequently than to elementary and secondary school pupils.

Effects of Reading Programs

Dr. Robert Bear, of Dartmouth College, one of the pioneers in reading improvement for college students and the teaching of reading in college, appraised the present reading status in the American college as follows:

> Within the last five years the quality of reading has risen noticeably. An application is not rejected because of some difficulty in reading is mentioned but the overall quality of those accepted is such that a "poor" reader has much less chance of acceptance. More students have had developmental reading programs in secondary years. Despite all this, some students arrive who are not very good readers and they can be helped by our program. Further, there is always a relativity range so some readers on this campus will be considerably below the average of their class relatively. They are helped by our program. Then our program has never been divorced from the study skills and textbook type reading. These have been integral elements in what I do and many students can still be helped to improve efficiency in these. Thus we still have about as many students participate in our program as formerly even though they are not by absolute standards poor or mediocre readers.

Other evidence of the recognition of the importance of training in reading during college and the years after formal schooling ends can be found in the studies of the value of remedial and corrective programs and the effect of such programs on scholarship and the individual. Increased achievement in reading skill evidenced by objective test-retest gains as a result of participation in training programs was reported in the early 1940's by such authors as Dearborn and Wilking (34), McCallister (80) and Parry (99).

The Armed Services evidenced early interest in improving the reading ability of adults. Large gains in objective test scores were reported for the Air University Reading Improvement Program (1), for the program at the Quartermaster School in Fort Lee, Virginia (2), for a program conducted in an Army service school (72), and for programs conducted by the Air Force (123) and Navy (104). Other studies involving government officials in Pennsylvania (46) and business administrators and supervisors (9, 24, and 143) also revealed gains in reading skill as a result of training. The authors of at least two studies have the temerity to suggest that even teachers might profit from systematic training in reading (70, 92).

Possibly to emphasize the importance of college reading programs despite evidence that all students increase their reading skill simply as a result of attending college (45) and to answer criticisms of experimental design, the late 1940's and early 1950's produced many reports of improved scholastic success for participants in reading courses over students who had had no special training (66, 86, 87, 95, and 118). Similar favorable, more recent studies have been made also have indicated higher grade point averages for trained over untrained students (13, 63, 67, 98, and 107).

Despite higher ability test scores for a control or non-trained group in a study carried out at Cornell University (82, 83, 84) not only were significant gains in reading tests and grade point averages noted for experimental or trained students, but also there were fewer dropouts in the experimental than in the control group. Hinton (57) reported a similar experience with the dropout rate at the University of Wichita. Willey and Thompson (147) also suggested that specially planned reading programs might reduce the dropout rate of college freshmen.

In reporting improvement in gains resulting from training, weakness in experimental design continues to rear its ugly head. As noted by Traxler and Townsend (132), "Occasionally, extravagant claims have been made without much factual evidence of real, permanent improvement." However, the permanency of gains made by college and adult subjects as measured three to thirteen months after the termination of training has been included in some reports, generally within the last five or ten years (7, 8, 72, 105, 119, and 128). One researcher (88) found that retesting one year after completion of a reading course indicated that about half the amount of the original gains in rate and comprehension was retained. In two follow-up studies with adults (65, 96), it was reported that although gains were evident from one to one-and-one-half years after training, reading improvement in adults does not appear to be as permanent as in college students. Possibly this reflects the relative amount of use of more finely or newly developed skills by the student as opposed to a business man.

On the other hand, there is some evidence that vocabulary size and quality of definitions do not decline with age if intelligence is held constant (42). It was reported (4) that there does not seem to be deterioration in reading skill with absence from school as, for example, in the case of the interruption of college for military service.

A permanent interest in and habit of reading does not seem to be widespread among mature adults. A sample of the book-reading habits of two hundred rural Southern adults over the age of 60 (58) revealed that 60 per cent spent no time reading books, although there was evidence that education was a more important determinant of the amount of book-reading than age. These findings, although distressing, do not differ markedly from the figures of Asheim (5) who concluded that " 'active' readers seldom make up more than 25 to 30 per cent of any group that reflects, with reasonable accuracy, a cross-section of the total population."

Despite the accumulated data indicating that improved reading skill is reflected in higher grade point averages in college students, there are critics who point out that research predicting success in college from reading test scores has yielded contradictory results. Moderate to high correlations between reading achievement and college success have been reported (55, 56, 61, 119). Low or negative correlations have also been reported (90). However, one negative correlation reported by Murphy and Davis (97) was obtained between a "reasoning ability" test score which was adapted from the Cooperative Reading Comprehension Test and grades in college. In another study by Preston and Botel which yielded low correlations (106), the authors pointed out that reading skill is more important than the magnitude of the correlations indicate and that reading instruction yielded gains in average marks which approached statistical significance. On the other hand, in a recent paper (137) it was pointed out that the correlation between reading test scores and grade point averages was moderate but that holding intelligence and listening skill constant yielded partial correlations near zero.

The practical significance of research indicating reading improvement and the permanency of such gains is immediately apparent in that it should persuade more widespread use of improvement courses with college students and adults. However, discussions of the characteristics of poor readers at these levels, such as those provided by McCaul (81), Wilking (146), and Witty, Stolarz, and Cooper (154), should be particularly helpful to those in charge of organizing new programs or evaluating existing programs. More recent descriptions of the poor reader and the population seeking help in reading have been offered by Hill (56) and Siegel (116).

Factors in Reading

A discussion of some of the problems which can arise in connection with reading programs for adults because of misconceptions on the part of the participants or the teachers should be especially helpful (148). As a result of work at DePaul University, Halfter and Douglas (50) concluded that the chief reading difficulty of college students is not in the basic skills of recognition and comprehension but in the thinking skills involved in most reading activities. Studies of the relationship between reading ability and logical reasoning (125), "rate of thinking" (22), and speed of idea-collecting (126) have been reported and types of comprehension errors made by college students have been classified (12).

The relationship between reading personality characteristics has been explored extensively since 1930. Emphasis seems to have been primarily on the elementary school level, but Robinson's (111) general discussion undoubtedly has application at the college and adult level. Introversion and anxiety (89, 113) appear to be characteristic of the poor reader at the college level, although Holmes (59) found no specific syndrome of personality traits for reading disability cases. An analysis of relationships between achievement in a voluntary reading improvement program and self-concept (112) has also been made.

Principles Underlying Programs

Many of the articles already cited, which report gains in achievement as a result of training programs, provide a description of the course in question. Studies which contain detailed descriptions of programs in operation (17, 27, 31, 32, 100, 124, and 133) should be of particular practical assistance to administrators and those responsible for such programs. Some ten yeears ago, Shaw (115) discussed six fundamental principles upon which many college programs are based, and these continue to be highly applicable.

From the replies to a detailed questionnaire returned by representatives of colleges and universities in Pennsylvania, Colvin (29) has recently described the "ideal" college reading program. As early as 1940 there was evidence that administrators felt that reading should be a part of all curriculum (155) and in Colvin's ideal program all freshmen would be required to take a reading course of an appropriate level. There is evidence of improved reading skill as a result of a required reading program (71), and regardless of the original level of reading achievement, freshmen appear to profit from a plan to include reading training in all required English courses (94). On the other hand, Feinberg, Long, and Rosencheck (41) refute the advisability of mandatory special reading programs.

Descriptions of the value of practice in such areas as vocabulary and remedial spelling (33, 63, 138) provide helpful information. Descriptions are also available of the value of other techniques that have been employed in attempting to improve reading ability, such as group therapy (85), nondirective therapy (150, 151), a comparison of directive and nondirective approaches (120), self-evaluation charts (14), self-initiated remedial programs (142), the Cloze procedure (15), the applicability of inventories relating to attitudes (40), and the relationship between reading achievement and motivation (35, 108, and 109) subvocalization (21, 39) and listening (49, 145).

Numerous published studies have dealt with findings obtained as a result of training in specific skills. Since Buswell's (19, 20) early work in eye-movement training, many other research papers have reported the results of perceptual training in the improvement of reading (23, 76, 121, 140). In one such study involving tachistoscopic training for secretarial and clerical employees, Hamilton and Anderson (51) reported marked gains in reading ability, but also suggested that adult reading programs should include work in vocabulary as well as direct practice in reading.

Many studies have been reported which attempt to compare the value of various methods of training (10, 11, 62, 74, 78, 79, 101, 122, and 130). The findings of a number of these comparative studies indicate that mechanical devices may be helpful techniques, but that they are not essential to reading programs for adults. Generally speaking, a combination of techniques and approaches has been found to be more effective than the use of a single method to the exclusion of all others. As might be expected, one study (18)yielded evidence that gains in speed and comprehension were found to vary directly with the emphasis given to each skill. There is also some evidence that progress is roughly proportional to the number of practice sessions attended (79) although the results of short-term remedial training reported (2, 3, 69) have been promising.

As indicated in some questionnaire surveys, the selection of textbooks and workbooks for use in an improvement course is a recurring problem. Lists of helpful books have been given by Simpson (117) and Weingarten (144), and an evaluation of workbooks was prepared by Miller (91). In 1959, Miller (93) also surveyed the extent of use of workbooks and mechanical aids in college reading programs.

Illiteracy *per se* is no longer a major problem in the United States. In Chapter II of the 1956 NSSE Yearbook, Gray (47) estimated that the average adult reading level in 1950 was just above a grade equivalent of 9.0, and that only about 15 per cent of the total adult population was reading below the fourth grade level. During World War II, a few studies were reported dealing with reading programs established for illiterates and mentally limited personnel in the military service (114, 153). An annotated bibliography of material concerning literacy and basic elementary education for adults was prepared by Ward (141) for the Office of Education, and Cortright (30) recently discussed the role of literistics and methods of preparing introductory literacy materials.

Illiteracy is of course a tremendous problem in the so-called underdeveloped countries, and this is reflected in recent literature (75, 131). Work such as that of John A. Downing (37, 38) with the Augmented Roman Alphabet developed by Sir James Pitman (103) may have great practical impact on the teaching of reading to illiterate adults. The success which has been reported in the use of television (16, 44) may also have implications for work with illiterates or adults whose reading level is so low as to classify them as semi-illiterates.

All pertinent research references are by no means covered in this survey. The reviews of research which are published annually by Marquette University in connection with the National Reading Conference for Colleges and Adults and in the *Journal of Developmental Reading* provide an up-to-date summary of pertinent studies. Descriptions of the programs in use in various colleges and universities are also published annually in the *Journal of Developmental Reading*.

The trend toward improved experimental research design mentioned by Theodore Harris (53, 54) is certainly a bright note and probably a good note upon which to end this summary. However, one of the most eloquent statements of the necessity for concern with adult reading habits was given by David H. Clift (28) in his introduction to the NSSE Yearbook on Adult Reading, and we feel that it is equally applicable at the undergraduate and graduate levels: "In a world in which the adult is hard put to cope with the ideas that strive for and require his attention, reading remains the single most important form of communication available to him and the most effective tool for his continuing education. There are, of course, other forms of communication. Beginning with 1900, various communication media have come along to stand beside the book, either as competitor or ally, but the book holds the leading position it has occupied for hundreds of years. There is good reason to feel, as President Dodds of Princeton University observed at the National Book Committee's 1955 Conference on American Books Abroad, that, 'books will remain the best visual aids to education.' "

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DISCUSSION

Dr. Albert Harris reacted to the above paper by remarking: People who are willing to use this kind of summary as an avenue into their own independent reading in particular areas, the contribution made is an excellent one and extremely helpful. For those who hope to be able to use this as an excuse for not reading the original contributions themselves, I think that such a hope is vain. My understanding is that the authors of this paper have tried to point out what is available, rather than to put the stamp of approval on every paper that they have mentioned, and it would be a serious error to assume that being included in the list of references here, means that the technique is sound and the conclusions trustworthy.

With this reservation, then, that I am sure the authors did not intend to imply that the studies that they have mentioned in their survey are necessarily to be accepted at face value. I think that this is a very important and useful type of contribution.

Dr. Arthur McDonald supplemented Dr. Harris's discussion by adding: I think that I would add to Dr. Harris's comment, by expressing the feeling on my own part that Dr. Traxler and Mrs. Jungeblut has shown the usual excellence and elastic performance and standards in not repeating material available in other sources, thereby cutting down on the bulk here and directing the reader to other summaries.

I would like to correct the source from which the National Conference Yearbooks may be obtained because it creates tremendous correspondence for us. You cannot get it from Texas Christian. It is available from me, as Treasurer, at the Reading Center, Marquette University, so if you want to order any of the Yearbooks, then please write me.

I would say that in view of what you heard yesterday about the illiterate problem in New York, in view of the problems we are having in Milwaukee, in view of the problems that we are having in Chicago, I think that the picture given here has been changed so that it is no longer as rosy as it appears, because of the immigration of large numbers of Puerto Ricans, Cubans, Hungarians, and other types of refugees, that we have gotten; so that I think illiteracy can be said to be no longer a problem of small magnitude.

Mrs. Jungeblut at this point acknowledged the information supplied by Dr. McDonald.

Dr. Miriam Schleich continued the discussion with these comments: I had the same thing in mind that Dr. McDonald did. I sat here wondering what 15 per cent of the adult population of the United States is. I think our present population is in the neighborhood of 180 million, but I don't know how many of them are adults that qualify. Perhaps 15 per cent doesn't sound so much, but if we knew what it was of, it might sound like more. I just wanted to add one other thing, and that was I think there are some colleges outside the Ivy Leagues, that are reaching the same conclusions that Dr. Bear is.

We, too, have at Hofstra University, have a much higher general reading level than we did five years ago and we still have the same numbers of people in our program, that our program can be at a considerably advanced level, which I think is all for the good.

Dr. Paul D. Leedy, who presided at this session of the conference, explained that the final paper would not be presented at the conference, but that it would be included in the Proceedings.*

George D. Spache

University of Florida

10. Clinical Work with College Students

CLINICAL work in college reading should concern itself with the factors that influence success in reading improvement efforts. Clinicians should be productive in identifying these factors, measuring and weighing their impact, determining the interactions among factors, and observing the results of attempts to control these elements. For the sake of discussion, the clinical aspects of college reading work might be divided into five categories: 1) student readiness or the selection of trainees; 2) personality factors or group and individual dynamics; 3) motivation and interest in reading; 4) vision and other physical factors and 5) the mental hygiene of the student. These five areas we have chosen to emphasize are deliberately limited. There are, of course, many other factors that are related to the success of the training in which clinicians are interested. But these will be adequately treated in other papers of this conference. In this paper, we will emphasize only the diagnostic or predictive facet of clinical work in college reading.

Readiness

Of all college reading workers, the clinician is primarily responsible for the selection of students and the diagnostic planning of appropriate training. It is his responsibility to assess the intelligence, the initial status in reading skills, and other relevant traits we shall discuss later. He is supposed to be able to predict the effect of intelligence and pre-training reading abilities upon the post-training results, in varying types of reading improvement courses. He is supposed to be able to evaluate those verbal traits which are likely to condition the degree of possible improvement, such as verbal fluency, speed of association, word attack skills, and breadth of vocabulary. Finally, the clinician should be able to weigh these various student characteristics and relate his diagnosis to the best possible remedial plan for each student.

You will note that we have suggested that the clinician is "supposed to" or "should" perform these diagnostic or pre-training functions, rather than saying that the college clinician does perform them. Two trends operate against a thorough clinical assessment of student readiness for training in reading improvement. One is the paucity of research in this area of clinical work. Sufficient facts are not available to permit the clinician to relate the diagnostic profile to exact remedial steps. Nor are many clinicians sufficiently embarrassed by their ignorance to do the research which would provide the answers. An even stronger trend against clinical diagnosis is present in the generalized attitude of college reading instructors that their courses will help any student. This self-assurance permits reading instructors to offer practically the same course to all students despite the high drop-out rates, the failure of at least 20-30 per cent of the students to show improvement, and despite the fragmentary research that indicates that some student's reading skills may actually be harmed, by the exposure to premature reading training.

Let us briefly review some of the research which is helpful in this area of clinical work. The relationship between intelligence and college achievement is universally recognized. Similarly, many studies show about the same degree of relationship between reading skills and college achievement. (34) But the clinician must know what the interaction is among these three factors. At what levels of intelligence will reading training contribute to college success? Or, can all freshmen improve their reading and will they consequently achieve greater college success? What specific reading skills contribute most to academic achievement, at different intellectual levels? At best, we find only a partial answer to these questions.

As a typical example, Heftel's study indicates a correlation of .65 between academic ability and gains in reading rate. (9) Even in study type reading rate, the gains correlated .45 with academic ability. Taken at face value, these results would seem to indicate that students admitted to reading courses emphasizing rate should be selected from the higher levels of intelligence, if the training is to be maximally effective. This study may also be informing us that some reading training courses do not help the academic success of the lower-level ability students, who may need some other type of training. The Vineyard and Massey study (32) appears to strengthen this latter implication, for they found that, with intelligence held constant, vocabulary improvement was significantly related to academic success but speed of comprehension was not so related. Both Chapman (5) and Munger (18) found the relationship between intelligence and college success to be much greater at the upper levels. In fact, for students who had achieved in the lowest one-third of their high school classes Munger found no significant relationship between reading scores and persistence in college. The necessity for relating student intelligence to the type of reading training offered is further demonstrated by Carlson (4). He discovered a tendency for less intelligent readers to read better at slower rates and for more intelligent readers to profit more from faster rate. Collectively these studies appear to indicate that there may be some minimum intelligence level essential for college success. Above this level, reading improvement courses of the garden variety may be profitable. Below this minimum intelligence level, there are three possible implications 1) reading improvement efforts may be useless; or 2) other factors may be much more significant than reading skills for eventual college success or 3) such students need a training course differing greatly from those now most generally offered.

These implications are not refuted by the fact that most reading improvement courses appear to produce gains in reading rate without significant losses in comprehension. These findings do not necessarily prove that most of the students are now reading faster without loss of efficiency. As Laycock (13) has shown, such gains in rate without loss in comprehension can be as readily achieved simply by varying the reading test directions. Moreover, careful inspection of each group report usually reveals that some students have deteriorated in comprehension. Studies by Hardison (8) and Letson (14) further demonstrate that when tests are scored for percentage of comprehension rather than for gross comprehension for the amount read, reading improvement courses resulted in losses in comprehension. In both studies, the data show a negative correlation between rate gains after training and percentage of comprehension. These interactions among student intelligence, reading improvement efforts and academic success are clearly supported by a number of other studies. The clinician's responsibility (and that of the reading instructor) to relate the nature of the reading training to student intelligence and the student's choice of curriculum is clear.

Other facets of the student's readiness for reading training are his present status in reading skills, listening skills (31) and certain verbal potentials, such as fluency and speed of association of ideas. Judging by the surveys of current practices in college and adult reading courses by Acker (1) and others, only one of these factors—present reading skills—is commonly assessed. Despite the significant relationship between listening skills and academic success, even when intelligence and reading are partialled out, few college programs either pre-test this element or stress its development in training. Similarly, the early studies of the effects of verbal fluency and/or speed of association upon potential for improvement of rate have never been followed up (2, 30).

Conclusive evidence regarding the significance of pre-training reading status for ultimate improvement is lacking because our methods of estimating such improvement are generally faulty. The ignoring of such factors as the practice effect in test scores, the regression to the mean and the unreliability of our test measures leaves us without any real evidence of this relationship (6). Simple comparison of pre- and post-training test scores for groups does not indicate which students really benefited from training efforts. Nor, as Perry (19) has hinted, do such comparisons prove anything about improvement of student recall, since practically all tests measure only recognition. The clinician should be concerned with determining whether there is a minimum level of reading ability below which training efforts are fruitless in his college environment. Rather than assuming that any poor college reader can be helped to improve, the clinician should be investigating the operation of the law of diminishing returns among his clinical population.

Personality Factors

We will ignore for the moment the importance of the student's individual personality problems in his response to reading improvement efforts, for this topic will be discussed later in this paper. Rather we will stress in this section the interactions among teacher approach, classroom climate, student personality, and the outcomes of a reading improvement course. We shall look for answers to the questions inherent in this interaction.

Several studies by Smith and his co-workers (23) seem to indicate that students may vary in their reading improvements in different classroom climates in accordance with their basic personality types. A parallel study by Spache, Standlee and Neville (27, 26) found no relationship between the introversion-extroversion or flexibility scales and persistence in the course or apparent reading improvement. But in these groups, those who worked independently in a laboratory framework evidenced greater changes in reading insights and habits than those offered a structured textbook or a machine-oriented approach. Hinton (11) has stressed the role of the reading improvement course as a supportive, anxiety-reducing experience for many students, while many other writers have emphasized that reading improvement may be tantamount to a counseling relationship for certain types of students (24). In several places, McDonald (15) has emphasized the relationships among student personality, testing conditions, classroom climate and variations in student reading performances. Some authors have explored personality changes in students after reading training, with varying results (20, 7). Informal studies in our own clinic indicate that measures of student adjustment or morale are of some significance in predicting student persistence in a reading laboratory and the degree of skill improvements. One author appears to find that post-training gains can be closely predicted on the basis of student self-expectations of their degree of improvement (22). These studies again have direct implications for the college reading clinician. To meet his responsibility, the clinician should be evolving studies of the interaction among courses varying in the degree of teacher-structuring according to student personality type to produce variations in gains in specific reading skills, and to influence the permanency of these gains. Like the McDonald studies cited above, the clinician should be investigating the effect of varying testing conditions in terms of instructions, time pressure, and student set for speed or accuracy and the implications of his findings for instructional and testing practices with various types of students. Undoubtedly, these clinical studies will reveal that remedial or developmental courses can be made more effective for more students than at present if these interactions are known and incorporated into diagnostic planning. There is available to the clinician a wealth of studies of the interrelationships of treatment approach, reading gains and personality tendencies, based on elementary children. Many of these will provide partial answers to these questions or indicate fruitful avenues for the clinician's research.

Motivation and Interest

These elements of the learning process are certainly interlinked with the other facets we are discussing. But for the moment, we will treat them as though they were relatively independent of student readiness and personality. The question of the motivation influencing college students to seek reading improvement training has contaminated the results of many clinic reports, as Wright (34) has pointed out. Most evaluations of the outcomes of college reading work assume that the academic motivation and the need for achievement are similar in poor readers and in the general college population. Recently, more careful studies have evolved special instruments for exploration of the motivation of poor college readers. For example, Raygor, Vance and Adcock (21), using an inventory of symptomatic behaviors, found a strong negative feeling tone to be characteristic of such students. As we have noted above, our informal studies indicate that low scores on the "Attitudes Toward School" section of the California Study Methods Survey are indicative of poor persistence in voluntary, unstructured reading training courses. Other studies (17) indicate that poor college readers respond poorly when training materials are consistently varied markedly in difficulty. In the same experiment, a group trained largely by mechanical aids responded much more positively, reaffirming the inherent supportive factor that many have suspected is present in machine work.

Interest in content, style or other aspects of the reading materials has often been assumed to motivate greater reading speed and better comprehension. Casual inspection of the training materials used in college reading courses will confirm the fact that many of their authors make this assumption. In fact, it would appear that many passages have been chosen almost exclusively because of their interest values, rather than their skill-building qualities. Changes in rate or comprehension in response to the reader's interest in a particular selection would demand a flexibility in reading performances which few poor readers possess, as most clinicians know. Even in very simple materials where variations would seem most likely, Bryant and Barry (3) did not find that changes in rate or comprehension were significantly influenced by interest.

The promotion of interest in reading for one's own purposes and the establishment of relatively permanent reading interests and tastes are among the most commonly stated goals of high school and college developmental reading programs. Surveys of the reading practices of college students and the general adult population, however, do not seem to indicate that these goals are very realistic (16, 28). In fact, in view of the academic demands upon the time of the average college student, it seems questionable whether such a goal is a legitimate one at this time of life. In the McDonald-Craig survey (16), 83 per cent of the college respondents claimed that they were too busy to read very much recreationally, a rationalization which seems quite reasonable, to us.

This brief summary of the significance of motivation and reading interests has major implications for the college reading clinician. He must recognize that students seek reading improvement for a variety of reasons, that their motivation for academic success may differ both in degree and tone from that present in the general college population, and that these variations in needs and presses may markedly influence the outcomes of the training efforts. As the clinician, he must assume the responsibility for differentiating among the motivations present among his students and relating these to instructional practices and treatment approaches. The clinician should avoid the questionable assumption that the use of training materials of high interest to students is of significance in changing their reading performances. He should certainly explore the implications of this assumption with the course instructors who may be overdependent upon it. Furthermore, the clinician should examine critically those developmental programs whose goals include a strong emphasis upon creating leisure-time reading interests among college students.

Physical Factors

It is apparent from surveys of current practices in college and adult reading courses (1) that physical difficulties which might interfere with the reading process receive little attention. Despite the facts that reading is first a visual act and that reading performances are conditioned by a variety of visual functions, only a small proportion of reading programs make an assessment of their clients' vision. Assessment of auditory skills is almost unmentioned in the college reading literature. The confusing and contradictory reports on the significance of visual and auditory functions for reading success are probably responsible for this attitude toward these physical causes of reading difficulties. The failure of many studies to show obvious and direct relationships between elements of the visual or auditory process and reading at the college level, the variations in results with different tests, and the tendency to atomize these processes and yet expect related functions to show independent relationships have contributed to dismissing these physical functions as insignificant.

The role of auditory functions in reading success at the college level is as yet unclear, for there are no major studies indicating direct relationships of any great magnitude. The situation is similar at other educational levels and it is quite logical to draw the inference that this factor can be safely ignored as a major cause of reading difficulty among college students and adults. In the area of vision, however, there are a great many studies at elementary levels and a few at secondary which should have alerted college clinicians to the possible significance of this factor.

To cite only two such studies, Kelley's (12) longitudinal study found a marked increase among secondary pupils in suppression of the vision of one eye and losses in binocular coordination with consequent depression of rate and comprehension scores, academic grades and social adjustment. Walker's evaluation of a temporary college reading clinic indicated that the failure to produce the expected gains may well have been due to the undiagnosed visual problems in over half of the students (33).

There are other unfortunate results of the tendency to ignore the significance of various visual functions in the reading process, as manifested in certain instructional practices at the college level. Many clinics employ printed or tachistoscopic materials for the avowed purpose of increasing eye-span or recognition span in the hope of increasing rate of reading. Yet the norms for the Reading Eye camera and reports of experiments in which this instrument has been employed as a post-training measure clearly indicate that such a goal is fruitless (29). Eye-span does not increase materially as a developmental phenomenon or as a result of direct efforts. Rate of reading is not increased by forcing an increase in span, but by a variety of other side-effects such as speeding up reaction time, creating a set for speed and increasing the use of contextual clues to word recognition.

Lack of attention to the visual process causes a second egregious error in college reading practices and philosophy. We see some clinicians who should know better the limitations of the visual process claiming to have taught students to "read" at rates far in excess of the limit of 800-900 words per minute which eye-movement research finds. Students employing some other act than reading most of the words on a page, such as skimming, scanning, or even flipping the pages, are credited with speed rates according to the amount of material covered, however superficially. A few reading improvement courses credit students with reading a whole line or even a complete page with a single fixation, or in some instances, with having read portions of a page that the student hasn't even looked at. We hope that in some instances these claims are made in all sincerity but cannot help reflecting that they stem from ignorance or disregard of the physical limitations of the human visual process in reading.

Finally, lack of clinical evaluation of the vision of trainees leads some reading improvement centers to expect complete transfer of reading speeds achieved at far point, as with films or tachistoscopes, to near-point reading. The possible interference of such handicaps as near-sightedness or far-sightedness, or the possible difference in the recognition span at these two distances are often ignored or unrecognized as the reasons for the only partial transfer commonly found. The possibility of disorganizing or completely frustrating students with these visual handicaps is also ignored in these far-point training programs.

In our opinion, the college reading clinician faces the responsibility for evaluation of student vision for the purposes of relating his findings to instructional practices. As the diagnostician, he should be able to prescribe the type of reading training which will be most feasible in view of the student's visual profile-machine or non-machine, near-point or far-point, for increase in speed or improvement in visual functions underlying accurate word recognition, for overcoming abnormalities in the mechanical elements of the reading act such as directional attack, excessive regressions, and abnormal durations of fixation. If his vision screening methods indicate any unusual variations in the visual profile, the clinician should also assume the responsibility for referring the student for professional examination and utilize the implications of that testing in planning reading training efforts, if they are not contraindicated. In addition, the college clinician should convey to his reading instructors sufficient information about the visual process to prevent them from repeating the faulty practices discussed above.

Mental Hygiene of the Student

We have touched upon some mental hygiene aspects of reading improvement work in earlier sections. It is not necessary to re-emphasize the clinician's role in assessing the importance of the student's motivation (22), the effects of prejudice or emotional reactions to content upon the reader's interpretation, or the interactions among student personality, classroom climate and teacher approach. But there is one observation that might be offered to provide leads for future clinical efforts in this area.

As Hill has pointed out (10), efforts to identify the particular personality traits characteristic of disabled readers have been relatively fruitless. Such research is almost doomed to failure unless we assume that the poor reader is a "nonvariable entity" at any age level. Other factors that Hill notes which militate against finding a disabled reader type are the variations in the tests, and the theories upon which they are founded. Hill strongly agrees with the viewpoint we have pointed out in an earlier article (25), that our concern should be with the student's self-concept —the way in which he sees himself as a reader and the significance of reading performances in the pursuance of his own goals in his efforts to be self-consistent.

Rather than attempting to find which personality theory or test can explain most cases of reading difficulty or success, we agree strongly with Hill (10) and Roth (22) that the clinician should be exploring other leads. Among these are the relationships between different self-concepts and types of reading instruction, the changes in student self-concept that may arise from reading instruction, and ways of helping the self-conflicted individual who is emotionally disturbed regarding his reading abilities. Other areas of research are the interaction between pupil self-concept and instructor self-concept, between student self-concept and resistance to instruction or progress in reading improvement, and finally among initial student self-concept, changes in these attitudes and speed of progress in improvement.

The role of the college clinician then becomes one of helping the student achieve greater consistency between his ego-ideal and his present inconsistencies and rationalizations, and perhaps to modify his self-concept and his goals so that they include the quality of reading performances he is capable of accomplishing, performances which will then contribute to his own goals.

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GENERAL DISCUSSION

Because Dr. Spache was not present, there was no discussion of his paper. DR. PAUL D. LEEDY opened the meeting at this point for general comment by the participants and the audience on any of the papers or ideas that were presented during the convention. He invited discussion by saying: We have certainly appreciated the graciousness of all of you in listening during the past two days to just the participants and the official discussions of the program. The time schedule unfortunately made this a mandatory requirement of our sessions. Time remains, however, when we are able to open the meeting to general discussion on any of the preceding papers that have been presented earlier, and to react to the total endeavor of this conference. I would be happy to entertain any suggestions or reactions or comments that you might have.

MR. EDWARD FRY, of Rutgers University, was the first to react as follows: I have had some experience teaching both voluntary and involuntary improvement courses for adults in industry, as well as for college freshmen and high school seniors, and my experience shows no difference in results.

DR. EHRLICH entered the discussion at this point with the following comments: I feel that I ought to respond since I was one of the ones who took the other point of view. I think that when you use the two words, voluntary and non-voluntary, that perhaps these words are subject to some semantic interpretation.

The experience that I have would indicate that unless everybody was on an equal footing, all who had been assigned, or had volunteered, that the differences would exist in groups; and I have had discouraging results because even one or two people in a group who are there against their wills can infect the entire group, and waste a good deal of time.

MR. JACK YOURMAN, Director of the College Skills Center, New York City, made the following comment: I have had a lot of experience in industry, on the college level and even at the junior high school level. Now, as in any group, when comparing voluntary groups, you get tremendous differences. For example, I have given about fourteen courses for one company. I have gotten a tremendous variability in results. Some groups triple their speeds, some groups double, some do not double their reading rate. There have been changes also in terms of comprehension.

In some groups, you get a 20 per cent improvement. In other groups, you just hold your own with an increase in speed. When you get this type of variation with voluntary groups and with involuntary groups, you are going to get them on the basis of the different motivations.

My feeling is that when you just take two variables here, you can find a lot of other factors which go into the situation and soon you are running into a lot of trouble.

Dr. James I. Brown made the following comments at this point of the discussion: Going back to the last paper on research and thinking over some of the presentations yesterday, one thing has come to the fore, that in the field of reading, where we have such a terrific volume of research, we have the problem not solved of countless people tackling almost identical problems, spending their time working them out, and then there's no moving ahead, there's only repetition and a standing still.

If we could, in some way, through a committee structure or through some panel or guidance group, help in directing some of this activity, help in eliminating some of the needless repetition it would seem to me that we would be miles ahead in the long run.

Brother Leonard Courtney of St. Mary's College commented: It seems to me—I did miss the first two papers and it is very possible the paper on humanistic approach considered this—but it seems to me there has been very, very slight mention of the more thoughtful penetrating critical type of college reading. It has been referred to with respect to context skills.

I'm thinking of the kind of college reading that some of you may have encountered in the marvelous article by Rubin Brower, of Harvard, on "*Lifetime Reading,*" and a similar article by Brower which appeared in *Daedalus* last year sometime, in which he is talking about depth reading, the kind of reading which I am convinced most college students truly want, where they are going to be able to come to terms with abstractions, with metaphysical concepts, with philosophy and literature and all of these things.

I think that we have neglected this type of reading to a certain extent in much of our discussion on college reading.

I think that it is actually an added dimension to reading that we sometimes hope to achieve by, let us say, broadening and deepening the skills. We don't always do this.

Professor Samuel Lourie, Reading Specialist at Newark (N. J.) State College, spoke to the point of the importance of critical and evaluative reading: May I just add a word on that. In teaching teachers to do a better job of teaching on the secondary level especially, I have found that many of my students are first, not critical readers; and second, not too well acquainted with how to set up practice session in critical reading within the context of their teaching milieu, so that such reading does not become a realistic aspect of their teaching.

I submit that if we are going to get the kind of improvement in critical reading and thinking that we all desire, and that will measure up to present day college standards, we are going to have to recognize this as a long term investment in intellectual quality and skill in thinking within the critical framework. And the sobering thought of this whole dream is that we have been giving this whole matter precious little thought, and even less practice, in the teaching of critical reading in the public schools.

Dr. Albert Harris continued Professor Lourie's discussion with these words: This is just an aside. In one of my comments yesterday, I mentioned that it may be that in order to develop teachers who can teach high level reading skills, we first have to get their reading skills up to a reasonably high level.

In my own work with elementary school teachers I have found that there is always a minority in a group of graduate students who cannot tell when an article gives both sides of a question, on which side the author prefers to be found, and I have, as a prime example, an article written quite a few years ago entitled, "Groping or Grouping," in which a minority always ignores the title and comes out with the conclusion that the author is against grouping.

Mr. Lawrence Gold, a high school teacher of reading, contributed the viewpoint of the secondary school teacher at this juncture in the discussion: I represent the high school, and I have some affiliation with the college as well. I am wondering, therefore, what the relationship is between the various standardized tests, such as college boards, and the prospect of reading programs at the college level.

In our high school for example, we find a very strong correlation between intellectual ability and verbal scores on the college boards and performance in grade point average, for example. The teachers in the school feel that their function is becoming more apparent, that the emphasis is being placed more and more on advanced placement work. The teachers feel that their function is to teach content matter and that the test results, college boards and so on, would attest to the fact that those students who read at a low level, also think at a low level, and consequently it is a waste of their time or the class time to pursue reading skills with such students.

I was wondering whether this same type of thinking has extended into the colleges. Whether this will mean that in the future, certain colleges, perhaps the more selective ones, will have fewer students who will be offered programs of reading and perhaps more programs of study skills. But I really would be interested in knowing whether or not the college boards or similar tests might have any effect on the type of reading program, offered.

Dr. Arthur McDonald spoke to the point of Mr. Gold's comments as follows: The situation which has been described is not true for the colleges in the Middle West—Marquette University, for example. We do not feel that the college boards measure primarily reading skills. There is, of course, a correlation. Depending on the range, your correlation is going to vary with heterogeneity or homogeneity. We do not bother with national norms for the reading test we give because if we have large enough groups, we can consider local norms and we can, thereby, pick our students on the basis of their standing in the class.

This is the relativity that Mrs. Jungeblut referred to earlier which, I believe, Dartmouth had commented on. We have found that our own entering freshmen classes are so high that if we used national norms, they would be in the upper quartile, so we don't do it that way. We also have other tests.

Dr. Albert Harris here commented upon the matter as follows: I think the answer would be that perhaps the danger is not as you see it. I think that the report we've had, citing the letter from Professor Bear at Dartmouth, is very much in line with what Dr. McDonald said: that the colleges have been steadily raising their sights and while the entering students as a total group, are able to read more competently than the students of a few years ago, the professors are also raising their sights, expecting more reading and the reading of more difficult material. They are grading on a curve, very similar to the curves that they were using before. The percentage of variance is not very appreciably higher. The percentage of F's tends to remain about the same, even though the population is more competent. So that the student's standing in his own student population seems to be the most important factor in determining whether that student really needs help in reading or not.

Miss Blanche Serwer, from City College, New York City, changed the course of the discussion at this point to the matter of research and commented: I would like to refer to some of the research that was mentioned, and to ask whether you feel as uncomfortable as I do with X amount of research that has to do with before-and-after, as to improvement, since so much of the college reading research is structured in this way.

I wonder how many researchers have ever thought of the tremendous variables that, for instance, enter into a freshman class, of students that come in and have, we hope, a notion of thinking and progress in intellectual matters; and so we give them the Cooperative C2, or the new Davis—or whatever we give them—and then test them afterward, ignoring the tremendous number of variables, such as the humanities course which helps them in their reading; and I agree with Brother Leonard, who wanted to deepen the content of reading here.

How can we ever test, how can we ever limit the variables just to the reading course, and to before-and-after evaluation? Certainly, a chemistry course would do so, and the literature courses should do so—and do. I wonder, at this point, just what reading is, and again Brother Leonard's question comes into this.

Professor Samuel Lourie raised the question of the relationship of research to "the firing line" in the teaching of reading.

Dr. Alton Raygor at this point in the discussion commented in terms of the larger horizons of the entire conference in saying: I think this kind of conference and this kind of publication really ought to be concerned with the matter of training people to do reading work at the college level.

Dr. Paul D. Leedy, who was chairing the meeting, brought the discussion to a close at this point with the following comments: It seems to me that what we are doing here is what every good dissertation does at the end of it: we are raising those problems that others need to work upon to find the answers, and we have been thinking in terms of a series of meetings of this sort, perhaps in a few years to come.

Maybe the problems that you are raising here are those which ought to be taken up in a future conference, and with which we ought to wrestle, because they are certainly significant.

CLOSING REMARKS TO THE CONFERENCE

DR. NILA BANTON SMITH, PRESIDENT,

INTERNATIONAL READING ASSOCIATION

The thought that is uppermost in my mind at the moment is that this has been a magnificent example of cooperative professional effort. I have felt this in the time that I received the first acceptance of the invitations that I sent out to participants. Practically everyone whom I invited accepted, which is unusual in a conference of this sort.

And in nearly every case, their letters began something like this: "Well, it is a terribly busy time for me, I have to register students on those two days, or my classes start on those two days or I have important faculty meetings on those two days or I'm starting a piece of research that has be done, begun that week, and in every single case, they followed by saying something like this: This is such a splendid project that I am just going to do it anyhow. I'm so pleased that IRA is going to get out some service bulletins and I am so glad that IRA is attempting higher levels in reading, I am going to make the effort, I'll be there. You can count on me."

And I have felt that same enthusiasm, that same willingness to help in these two entire days in which we have been together. Not only have the speakers and discussants given their messages with excellence and competence but at many different moments they have come to me and said, do you think the bulletin might be better if we did so and so, in the publication, and even this afternoon, from the audience, we have gotten suggestions for the publication.

So again, I should like to say, in my long years of experience in the field of reading, I have never seen a more magnificent example of professional cooperation that we have been having in connection with this project.

The conference, as a whole, I think, has been splendid. This is partly due to the fact that, I believe, we concentrated on just one segment of the reading endeavor, and that we treated that segment broadly, treating many different aspects at this particular segment of age treatment in reading.

But more particularly has the conference been successful because of the superb quality of the papers and of the discussions. The papers have been scholarly, yet they have contained a practical procedure, or an implication for practical procedures, and that pleases me very much.

The discussions have been provocative and stimulating and interesting, and of course, it is the talks and the discussions that have made our conference such a success.

The papers are now in the hands of Dr. Paul Leedy, with the exception of one or two, which will be in his hands shortly. He will copy-edit the manuscript for publication. I know that Dr. Leedy is a good editor, I know that he has plenty of drive and I know that he meets deadlines, and all of those qualities are necessary in doing an expeditious job in getting this publication out, and so now you understand why I chose him for this task. It's a big job, and I appreciate very much his accepting the responsibility.

I wish to express my most sincere thanks to Dr. Staiger and Dr. Karlin and Dr. Brown, for their fine arrangements and managerial activities, which have contributed so much to our conference, and to a smooth-running conference.

My deep appreciation to the participants and to the people who prepared the conference papers and to the discussants for standing by two whole days and providing us with these very stimulating discussions.

To all of you, I express thanks for coming to this convention, for the fine contributions you have made. To all I wish a very successful and happy good school year ahead.